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EDITORIAL.

THE "SICK MIND."

One of the interesting studies of the day is to follow the workings of the many warped minds, hovering outside the medical edifice, in their earnest endeavors to achieve results in the sick-room which would proclaim them masters of situations that have baffled the scientific mind of the doctor of to-day. The old theory, as expressed in the writings of the founder of "Christian Science," was decidedly opposed to the teachings of medicine as we have always understood them; and even the Emmanuel Movement in its early days, before it recognized that its vitality would be short-lived without the "moral" support of "prominent" physicians, attempted to sail in turbulent waters unassisted by medical science; but these glaring mistakes are about to be rectified, since the latest expression* emanating from the ranks of religious healers is of so propitiatory a nature that we must at once admit the attitude of the writer to be a declaration of a willingness to encourage the coöperation of the medical man in the work he sets out to do. In fact, so anxious is he to effect an alliance with the medical Cerberus who guards the door to the sick-room, that he even modestly rates his functions as of secondary importance; and that his humility has not gone unrewarded is evidenced in the preface by Dr. Lewellys F. Barker, which, though guarded, non-committal and perfunctory, is nevertheless commendatory of what follows.

Reading this work in the calm which follows a day's work, we cannot but think that its very seriousness is food for much thought, for its pivotal idea is that from now on doctors should consult with clergymen in those circumstances where the mental state of a patient needs a spiritual uplift to put to flight the vagaries incident to disease, and which have proved obdurate to the insinuating fascinations of pill, powder and potion,

*Mental Medicine. Five Conferences with Students at the Johns Hopkins Medical School, by Oliver Huckel, S. T. D. Graduate, University of Pennsylvania. With an introduction by Lewellys F. Barker, M. D., Professor of Medicine in Johns Hopkins University. New York: Thomas Y. Crowell & Co.

or to the unspiritual conversation that is necessarily the outcome of a scientific training. Here, indeed, is a large, not to say, illimitable field in which to ambulate for many a day; and that no medical man, irrespective of his belief, need feel that he might roam about unattended by strong words of good cheer to make him the better able to cope with all sorts of mental states, we hasten to add that the author is not at all doubtful of the complete concord that must obtain, when there is effected a unification of the patient's, the doctor's and the clergyman's mental status. That this might be one of the most intricate problems in psychology does not occur to him, for the surety of his position will not allow him to entertain the possibility of a disagreement in the triangle—a disturbance all right-thinking physicians are only too anxious to banish from the sick-room. Disagreements in a spiritual sense are really an upheaval greatly to be deprecated; but even though there may be the wished-for placidity of thought between patient and clergyman, the third factor—the doctor—cannot be overlooked, since his purely medical machinations may be diametrically opposed to mental states that make much of the supernal. As things are now, the doctor's position in the sick-room is supreme, but his autocracy is no more assured than is that of any other ruler; in short, a slight derogation of his power might be his undoing, just as it has been in the history of other autocrats. And surely the introduction of a clerical factor would wrest some power from him; and when this is done not only is the patient no longer in his grasp, but the loosened leashes allow the introduction of the thought that the drug prescribed is of slight value,—in fact, is a negligible quantity alongside the strengthening doses of conversation as they well unremittingly from the lips of the clergyman. Influences in the sick-room count for much and neither are the times ripe enough nor the doctor's mental calibre broad enough, at present, to entertain the *rapprochement* so greatly desired by the author of "Mental Medicine."

But aside from the serious aspect of the matter, there is another phase that should enlist our attention. Whether or not the author of this work is gifted with the saving grace of humor, we do not know; but what we do know, and for which we can asseverate after toiling through his 214 pages, is that when he conceived his favorite child he suppressed all trace of it so well that his offspring is completely devoid of it. Of course, humor in a portentous work is decidedly out of place, and though we admit this willingly, we cannot suppress a smile as to what would happen in the presence of a patient, if some of the doctors, who have crossed our path, would be requested to hold consultations with clergymen. In truth, it would be no consultation at all; for if the medical man were the sort we have in mind, the spirituality of the clergyman's talk would be

as a faint whisper against his mighty words, armed to the teeth, as he is, with all the teachings the latest evolution of medical science has granted him. And the only result achieved would be the complete discomfiture of the gentleman of the cloth, the towering rage of the Æsculapian and the hysterical seizure of the patient! The literary pages from Rabelais to Sterne, from Sterne to Thackeray, in fact, all satirical literature is at one when depicting similar scenes; and since human nature never changes, there may be some justification in our disapproval to abet occurrences, which can only have for results the exemplification of the **very** human defects of doctors and clergymen.

The matter of religion is so important to the well-being of the people, that to take it out of its accustomed province and thrust it into uncongenial surroundings, is to treat it with a disrespect it does not deserve. Were the transplantation merely an encroachment on a literature that was in need of a moral uplift, it might have a laudable purpose, since the laxities of literature at times need this sort of beneficent curbing. But medicine is a healthy science that surely knows how to meet the needs of the afflicted, and as yet shows no signs of that degeneracy which is supposed to encompass us. When the time comes that proves it derelict in its offices, the thought may present itself to some of its teachers to ballast its weakening powers by the addition of the unrelated dogmas of religion. But until this happens, the enthusiastic advocates of "mental medicine" will have to content themselves with the pale and emasculated words of commendation, as illustrated in the preface which Dr. Barker has written for this latest compromise between Christian Science and the Emmanuel Movement.

THE PROBLEM OF PROBLEMS.

In former times when the medical mind was engrossed exclusively with its medical studies and took small account of the questions which were then beginning to agitate the awakening minds of the sociologists, medical literature was quite devoid of all argumentation relating to social subjects. But the advent of the multiplicity of problems, their insistence of an early solution, and their interdependence with the science of medicine, changed the color of the medical mind and, to-day, what with psychology being the prime mover of all our acts, be they wise or unwise, and sociology shooting its tentacles into the adjacent provinces of medicine and hygiene, the doctor who wishes to be reckoned with the medical vanguard in civilization's latest strides, must perforce interest himself in what is being done by all those social philosophers who have utopian

ideals. The doctrine of preventive medicine has permeated the teaching of medicine as no other force, and though the wisdom of this innovation cannot be questioned, it is not unlike other beneficent movements in this respect—that, having exhausted its virtues as a possible factor for the betterment of hygienic conditions in the province which rightly belongs to it, its ambition is driving it into the hazy and somewhat undiscovered stretches which lie between sociology and medicine. And in no respect is it more rampant than when the play of its contending and multifarious theories is brought to bear on the sexual question,—a question that has never lain dormant but which has never suffered until now from so much maltreatment resulting from a misguided enthusiasm.

To follow all the books* on this vital question by foreign and native authors, is a task that might have dismayed even the legendary Hercules; and though we would fain abjure all but the true and medical interest in the subject, the tendency of the times is such, that ignorance might be attributed to us were we to refuse to take cognizance of its aggressive vitality. A medical interest need not necessarily resolve itself into the now historic words of Mr. Podsnap, who, when speaking of a subject with small appeal to his nature, said: "I don't want to know about it; I don't choose to discuss it; I don't admit it;" but, on the other hand, should it allow itself to be whipped into a fine frenzy on account of the moral derelictions of a large part of mankind, the ignorance of children as to the importance of a knowledge of the sexual question, and that aged problem, how best to control prostitution? This interest is not altruism in its best estate, but egotism that makes much of the necessity of applying an individual idea to the general public, in the hope that the idea may fructify into the sort of revolutionary measure, that shall be a beacon to all, no matter what heredity, nationality or deep conviction has made of their natures.

If the medical philosophers who are deluging us with their views, would hark back to what mankind was in early history, in the history of the Middle Ages, and in quite recent history, they might grasp the non-elusive idea, that what they call moral defects were combated just as un-

**La police des mœurs*; par Louis Fiaux. Paris: Félix Alcan.

La lutte contre la prostitution, par R. Decante, juge au Tribunal civil de Châteaudun. Paris: V. Giard et E. Brière.

The Sexual Life of Our Time in its Relations to Modern Civilization. By Iwan Bloch, M. D., Physician for Diseases of the Skin and for Diseases of the Sexual System in Charlottenburg, Berlin, etc. Translated from the Sixth German Edition by Eden Paul, M. D. New York: Rebman Company.

The Sexual Question. A Scientific, Psychological, Hygienic and Sociological Study for the Cultured Classes. By August Forel, M. D., Ph.D., LL.D., formerly Professor of Psychiatry at, and Director of, the Insane Asylum in Zurich (Switzerland). English adaptation by C. F. Marshall, M. D., F. R. C. S., late Assistant Surgeon to the Hospital for Diseases of the Skin, London. New York: Rebman Company.

successfully then as they are to-day. If in the dawn of civilization the matter was not, as it is now, in the hands of the advocates of preventive medicine, it was handled by no less an authority in law than Solon. What his success, and that of his followers in later generations, was, is attested by the many shortcomings which are ours as an undesired heritage; hence, it must appear to all, that human nature has not been an apt pupil when coercive measures were invoked to hamper it in its natural liberties. That this, unfortunately, is always the case was best appreciated by Rousseau who, from observations made in regard to what the law could not do with recalcitrant human nature, evolved his theory of complete freedom of conscience and of thought. And that his idea is still a force in the world to-day has been admitted by most sociologists; therefore, would it be unwise for the already mentioned medical philosophers to reconsider how hopeless is their task to take what is chaotic, and attempt to weld it into a malleable substance that shall bear, distinctly and with profit, the impress of all their reformatory theories?

When we envisage the important question of what would constitute the best means to lessen, if not to abolish, the social canker, prostitution, which has gnawed its way, despite molestation, through the very calyx of our vaunted civilization, we are again directly opposite the Rousseau dictum; for already the reformers, who, on account of their blatancy, have our ear, are divided into two camps: The Abolitionist School with its Rousseauism expressed in the thought "that liberty is the first of human rights and applies as well to the woman as to the man; therefore, the woman should be free, free to live the life she elects;" and the School for Regulating Prostitution, with its watchword: "Public health is, above all other duties, the one that is incumbent on society."* But the question which some of our latter-day medical reformers have grafted on the old subject of limiting the growth of prostitution, is the resuscitation of the long defunct preachment** that there should no longer be a double standard for men and women, but one standard, and that, the sort which has obtained from time out of mind for the chaste female. Every reformer has advanced this idea at one time or another, to find out, only when it is too late, that a visionary conception of what really constitutes the manner of life as tolerance and custom have made it, is no solution of the question which is of paramount importance to the doctor—namely, the lessening of the dissemination of sexual diseases.

Instruction when it is directed in the right channel is often productive of good. But while granting this as a truism, the recipient of the lessons

*La rancon du progrès, par M. Pierre Baudin et M. le Dr. L. Nass.

**The Problem of Social Hygiene. By Prince A. Morrow, A. M., M. D. *The Medical Times* for June, 1909.

should not be considered the negligible quantity the enthusiasm of reformers deem him, when the swirl of their theories almost engulf him. To take a youthful product that is characteristic of all the good and bad points of our civilization, and cut him loose from his moorings, only to submerge him with terrors of what may be in store for him, should he refuse to lead a cleanly life, is nothing but a retrogression to the gloom of medievalism that can lead only to revolt. But the vivacity and jauntiness of our medical reformers know nothing of gloom, for their theories are imbued with the vitality that can be characterized only as highly decorative. In fact, so buoyant are they, and so fearless in promulgating chimeras, that no passage in literature could better describe their actions than the conversation between Antonio and Sebastian in "The Tempest," where the former says: "What impossible matter will he make easy next" and the latter replies: "I think he will carry this island home in his pocket, and give it his son for an apple."

A PSYCHOLOGIST'S VIEW OF MURDER.*

The influence of odors on the emotions has always been a subject fraught with enough interest to fix the attention of those writers, whose extreme sensuousness or hypersensitiveness has led them to undergo agreeable or painful sensations after an actual experience, or later on when remembrance thereof indelibly impressed them as to what might be expected when their emotions were thus stimulated. The real or imaginary taste of drugs also causes strange emotional upheavals in those who are easily affected by memories, especially of the disagreeable sort; and in no instance has this been better illustrated than in a letter from Flaubert, which may be found in Taine's work, "De l'intelligence" (Vol. I., p. 94), and in which he says: "When I wrote the poisoning scene of Emma Bovary, I had so strong a taste of arsenic in my mouth, I was so thoroughly poisoned myself, that for two consecutive days I could digest nothing; indeed, I found it impossible to keep a morsel of food on my stomach."

If these special senses are so retentive of impressions that make for elation or great depression, why should not the sense of sight be capable of transmitting to a brain suffering from complex emotionalism, certain excitations that fall on soil congenial to their expansion? Of all colors, red is doubtless the color that has such dire qualities, that once

*An Address on a Prominent Motive in Murder. Delivered before the Medico-Legal Society on May 25th, 1909. By T. Claye Shaw, M. D., Lond., F. R. C. P. Lond. *The Lancet*, June 19, 1909.

its glamor is mirrored in a brain of hyperactivity, it may be the cause of an invincible desire to commit a crime, or be so disturbing a factor that insanity results. Anatole France, in his short story, "The Red Egg," emphasizes the fact of this color's machinations in a brain peculiarly constituted to break under their influence. And that in the minds of the people the color of red has always been associated with a lust for blood, has been evidenced not only in individual crimes, but in all those social upheavals that have led to excessive bloodshed. The Phrygian cap of the French revolutionists is not without significance.

Now all these illustrations but indicate the activity of the senses, and the sensitiveness of brains to the abnormal workings of impressions wrought from what should be the commonplaces of life; but as preliminaries to an understanding of Dr. Shaw's paper, they are of some moment, for the lust for blood or "hæmothymia," as he calls it, would not be the "prominent motive in murder," were blood any other color but red. If it is true that the fascination—the impelling force that cannot be vanquished by the emotional brain—arises from the morbid desire to shed blood, it is equally undeniable that its color is a factor that should not be overlooked. The recognition of what a special color may stand for as an active agent in the perpetration of blood-thirsty deeds, is as yet an undeveloped chapter in abnormal psychology; but that it is worthy of closer and more scientific attention is one of the things to read between the masterly lines of Dr. Shaw's paper.

In turning from Dr. Shaw to August Goll in his book* describing certain characters in Shakespeare's plays, we are again in the technically involved atmosphere so beloved of the tortuous legal mind. Dr. Shaw, throughout his paper, unswervingly clings to what he conceives to be an important incentive to crime; and the result is that his lucid study cannot affect the medical mind other than to convince it that criminal cases are sometimes more satisfactorily explained by the doctor than the lawyer. August Goll adds no fresh knowledge to our newer interpretation of crime, for he calls Brutus a patriotic criminal, Richard III. a born criminal, Iago a criminal by instinct, and Lady Macbeth a domineering criminal.

The right of a lawyer to classify crime, irrespective of the motives prompting the deed, and explanatory only on medical grounds, is not unimpeachable; and if the object of inquiry is, as it surely ought to be, an understanding of the criminal types which our latest civilization produces, there is required greater knowledge than is brought home to the law through the intricacies of multifarious cases. Surely Dr. Shaw,

*Criminal Types in Shakespeare. By August Goll, Chief Magistrate, Aarhus, Denmark. London: Methuen & Co.

in appraising the criminal tendencies of Lady Macbeth, would hardly call her a domineering criminal. Rather would he class her among the highest types of those afflicted with "hæmothymia."

LITERARY NOTES.

Words of commendation fail one when contemplating the worth and value of the two volumes, "The Collected Papers of Joseph, Baron Lister," which have recently been published to commemorate the eightieth anniversary of that distinguished figure in medical science, Lord Lister. These books are not only a credit to the publisher (New York: Oxford University Press), but reflect great honor on the committee of distinguished men who are responsible for the first complete edition of Lord Lister's writings. And that this so-called *Festschrift* is far superior to the usual drool that is put out by the Germans when they wish to honor a confrère, is shown by the modesty of the various editors, since none of them indulges in fulsome praise of their idol, but allow his own writings to speak for themselves. Surely Lord Lister's contributions to medicine need none of the adventitiousness of dubious praise that is born of enthusiasm on the part of an editor; for, unassisted, they loom large on the medical horizon to-day, even though many years have passed since they first startled the medical mind by their aggressive advocacy of the principles of antisepsis and asepsis. Modern surgery would not be what it is had these splendid contributions been overlooked or neglected at the time of publication; but, fortunately, judgment in the early seventies was just as good as it is to-day; hence, there was an acceptance of Lister's teachings with results that are now the chief props of the surgical edifice. No surgeon who is interested in the growth and virility of his specialty should fail to read and re-read "An Address on the Antiseptic System of Treatment in Surgery," and "An Address on the Catgut Ligature," for even though he may think that his knowledge of these subjects is above criticism, he will soon ascertain, if he is open to conviction, that only profit can come to him through reading the wise words of one who at the time he wrote saw beyond the ken of most men.

Dr. Cabanès, whose indefatigability as a researcher of medical history is beyond dispute, has recently published, through Albin Michel, of Paris, the sixth volume of his interesting series, "Les Indiscrétions de l'Histoire." If any justification were needed for this sort of work, the foreword of this volume would amply show that enough distinguished doctors in the past have given their services to medical history to en-

courage any modern writer in the same field. Among the names mentioned by Dr. Cabanès are Rigord, physician and historian of Philip Augustus, Bourgoing, physician to Mary Stuart; Guy Patin, Gabriel Naudé, Citois, Levasseur, Marc-Antoine Daudot, George Date, Cromwell's physician, and in more modern times, Menière, Cloquet, Littré, Dubois and Brachet,—students who, by their investigations, have shed light on the questions of pathological heredity and on the vexed question of inherited morbidity. And to these names should be added that of Cabanès, for his earnest endeavors surely entitle him to a distinguished place in the list of medical historians. It is the author's opinion that medical writers, by their illuminating studies, have done more than mere historians in clearing up obscure matters in history; an assertion that has for its support the high testimony of Saint-Simon and Michelet. And with this thought in mind, Dr. Cabanès proceeds undauntedly to tackle about the most complex character in history, namely, Louis XI. From the numerous documents studied, it would seem that this king, who has stood for many years as the archetype of despicableness and craftiness, was a neuropath who, at one and the same time, was afflicted with epilepsy, hemorrhoids and leprosy! That this array of diseases was not all, is impressed upon us by Dr. Cabanès, for he mentions that there were "other numerous intercurrent maladies." After reading carefully this chapter on the man whom Casimir Delavigne, the French dramatist, drew in so masterly a manner, we must arrive at the conviction that a degenerate, a tanatophobic and even a pantophobic neuropath, may, at the same time, be a political genius of a remarkable calibre. Other chapters are devoted to Luther, Molière, Voltaire, Rousseau and Napoleon; and when we say that these characters are treated with all the rigor of a most exacting critic, we are but stating the truth. Hero worshippers should beware of this volume, but the truth-loving medical mind will find in it many explanations, based on neuropathy, for all those vagaries which have had a certain appeal for the romantic student of history. In fact, after Dr. Cabanès grills a historical character, one can say: "The mask falls, the hero vanishes and only the man remains."

THE QUESTION whether or not Napoleon's reverses at the battle of Waterloo were due to a disease that incapacitated him for the tremendous task he had set before himself, receives a fresh impetus in the article Dr. Ravarit has written in a recent issue of *La Chronique médicale*. The author says, "there is no good reason for attributing the disastrous result of the day to a disease affecting Napoleon, but what should be held responsible for the unfavorable outcome, was the series of unforeseen circumstances and strange fatalities." We gather from Dr. Ravarit's contention that not only was the Emperor not ill, but at

no other time in his eventful history was he in greater control of his physical or mental forces, and never was his genius in better shape or his unquenchable talent for strategy more effective. "Incomprehensible day, a most singular defeat, since the honor of the vanquished did not suffer and the glory of the conquerors was not augmented" were Napoleon's own words in the calm of his prison life on St. Helena when he recalled the fatal day. That Dr. Ravarit abides by good common sense when he dismisses an acute attack of the hemorrhoids as the disturbing factor of the day, is borne out by the fact that had such been the case, Napoleon would not have been able to remain on horseback fifteen hours on June 16th, the day the Prussians were annihilated at Ligny, as well as on the 17th and throughout the 18th. Hemorrhoids would have compelled him to rest, at least for some time, but all historians are agreed that on the night preceding the 18th, he passed the time playing cards and mounted his horse three times to reconnoitre the enemy. Nor does Dr. Ravarit agree with Dr. Bougon in his statement that "Napoleon's soldiers were right when they thought he must be suffering, on account of having fallen asleep opposite the Caillou farm when he should have been of some assistance to Marshal Ney in his attack on Haie-Sainte." In all his campaigns, the soldiers had remarked on the Emperor's habit of falling asleep whilst in the saddle,—an ephemeral sleep, to be sure, but so tranquilizing that even on the morning of the 18th they mistook it for calmness and extraordinary coolness. In fact, from the time Napoleon had disembarked and triumphantly marched across France to his former abode in the Tuileries, he had not had a peaceful moment, and the little sleep he desired was greatly curtailed. But even in his quieter days, this constitutional peculiarity was evident, since it was nothing unusual for him to sleep during a conversation or at the theatre; and at Tilsit, when one would think the exalted presence of an audience of kings would alter matters, he did not refrain from the habit. But Dr. Ravarit asserts that these momentary snatches of sleep were not detrimental to his activity; in fact, they were not followed by the usual torpor but by an increase in mental action, of which no better illustration is at hand than the extraordinary manifestation at the battle of Waterloo.

ORIGINAL ARTICLES.

HEBOSTEOTOMY VS. CÆSAREAN SECTION, WHEN THE LATTER IS ONLY RELATIVELY INDICATED IN CASES OF NARROW PELVIS.*

By E. GUSTAV ZINKE, M. D., of Cincinnati.

We all are proud of the rapid, marked and beneficent progress made within recent years in the science of medicine and surgery. It is discouraging, however, when advantages which would accrue to mankind from the progress made, cannot be realized or are long delayed because of existing conditions and practices, or because of inherited or acquired prejudices. Wholesome opposition based upon sane reason or valid objections, must ever be welcomed. But protracted resistance, even when based upon prejudice alone, to accepting the new and good, while it is to be regretted, must be dealt with patiently, for, ultimately, that which is of value will find recognition and its proper place.

Of all the battles the human race has been obliged to wage none is older in point of time, greater in frequency, or more continuing, than the conflict between the mother and the child to be born. No tongue ever told, no pen ever described, no book ever recorded the agonies endured by the mothers of the past during protracted, difficult and fatal cases of labor. When in the act of birth both mother and child escaped alive and whole, it was a cause for rejoicing; if both were hurt but lived, it was still a cause for congratulation; if one died in the conflict we were thankful for saving the other; if both lost their lives, comfort was sought in this: *The best had been done.*

The picture is not overdrawn. Nor is it true only of the remote past. It is equally true of more recent times. Too often it is true of our own day. We need not look long or far for an explanation. Medical history tells the reason why succor came not sooner to the mothers, and why, when efficient assistance was possible, it was refused, not by women in labor and their immediate friends, but by those who had been trained and educated to render assistance to the lying-in, and who were called to their relief in the hour of trial and distress.

One hundred and sixty years ago absolutely nothing was known regarding the mechanism of labor. After that, through the recorded and combined observations of Fielding-Ould and Smellie, of England;

*Read before the St. Louis Surgical Society, April 14th, 1909.

Note.—By request of the author, this paper will also appear in the *Lancet Clinic*.

Solayré de Renhac, of Montpellier; Saxtorph, of Copenhagen, and a few others, the elder Naegele, of Heidelberg, was enabled to publish to the world the *euclid of obstetrics*—the mechanism of labor.

The *doctrine of narrow pelvis*—though announced and promulgated by Deventer in the beginning of the eighteenth century—was not completed until the second half of the nineteenth century by Michaelis and Litzmann, of Kiel.

Palfyn produced his forceps (really a double vectis) in 1717. The *Chamberlen forceps*—though invented about the end of the sixteenth or the beginning of the seventeenth century—were kept a secret and not given to the profession until published by Peter Rathlaw, of Amsterdam, 1747.

Cesarean section was not performed on the living prior to the year 1500. *Symphyseotomy* was not known before the year 1775. Both operations, though successfully performed on the human female, fell into disrepute because of the frightful mortality and morbidity attending either operation. They were, consequently, very rarely performed prior to 1880.

The *Chamberlen forceps* answered the purpose in all cases of vertex presentation when the pelvis was sufficiently ample and the head within the cavity.

The *bête noir* of every obstetrician, the much dreaded *child-bed-fever*, was well known long before the invention of the forceps, but its cause remained a secret until 1872. Though Semmelweis, of Vienna (1846-7), showed conclusively that it was a poison carried upon the student's fingers from the dissecting-room to his patients, it was not until 1870-2, when the research-work of Pasteur and Koch brought to light the true character of this preventable but grave obstetric complication. The obstetricians of the past knew, however, that *child-bed-fever* usually developed during protracted labor or followed it.

It is this latter fact that led, in the beginning of the eighteenth century, to the doctrine of narrow pelvis, and, later on, to the invention of the so-called compromise operations—the high-forceps, prophylactic version, and the induction of premature labor. Germany was, and has always remained, partial to prophylactic version; France introduced the long forceps and added the pelvic curve; England presented the induction of premature labor.

These three procedures became, very justly, popular operations in labor cases complicated with narrow pelvis. France preferring the high forceps, England the induction of premature labor, and Germany, prophylactic version. Thus, for a period of fully 150 years or until the time when the value of antiseptic midwifery had been recognized—the obstetrician lost no time in delivering the child by resorting to one or the other compromise operations as soon as the diagnosis of narrow pelvis had been made. He knew that if labor was not terminated promptly, *child-bed-fever* was inevitable. And for the same reason, if the

child could not be delivered promptly by one or the other of these operations, embryotomy was performed whether the child was living or dead.

The mortality of this practice was, naturally, very high; 10 per cent. for the mother; 60 to 70 per cent. for the child. Still, this was the best that could be done in pre-antiseptic times. It was good practice then. It is good practice to-day when it is impossible to render the patient and her surroundings aseptic. The time had long since passed in which the accoucher would sit idly by the bedside until the child had died, and then, and then only, resort to perforation.

With the advent of antiseptics in the practice of midwifery, discovery of the causes of puerperal fever, and the doctrine of narrow pelvis complete—the practice of obstetrics was revolutionized and vastly improved. The fear of puerperal fever gradually subsided, and confidence in nature's own efforts slowly returned. The obstetrician was again disposed to give the pregnant woman, who was the victim of a moderately contracted pelvis, the "*test of labor*." Only when nature's effort failed would he resort to the high-forceps, version, or, in some instances, if the contraction was very pronounced, perform a symphyseotomy or Cæsarean section.

While in Vienna, in 1891, the speaker witnessed a "*test of labor*" in Chrobak's clinic prolonged to a degree which, at the time, seemed to him needlessly dangerous. The patient was a III. para. The first child had been delivered with the aid of craniotomy; the second child was born dead after version. When brought before the class, the first time in this labor the patient was still in the first stage of 18 hour duration; cervix obliterated, os size of dime, membranes intact, presentation—vertex; first position, head floating freely above the pelvic brim. Pains moderate. Patient's condition good. The following day (now 42 hours in labor) she was again presented to the class. The membranes were still intact and dilatation of the os nearly complete. Pains very severe. Begs for relief. The contraction ring could be plainly seen across the ampuitheater. Chrobak remarked: "Gentlemen, the patient's temperature and pulse are still normal, the pelvic soft parts are free from tenderness and moist. We will wait." The next day the patient is brought before the class with a living, healthy baby in her arms. The child was born spontaneously at ten o'clock the previous evening, fifty-five hours after labor began. I marveled at the management of this case. Later I tried it in similar cases in private, as well as in clinic practice, and occasionally succeeded in delivering a living child without serious damage to the mother or the child.

Through the special work of Morisani, Pinard and Zweifel towards the end of the nineteenth century, Sigault's operation (division of the symphysis pubis) was revived and performed in cases of contracted pelvis in which the conjugata vera was not less than 6.5 or 7 c.m. The foetal mortality was at once greatly reduced. The maternal mortality,

too, was better than in the past, but because of the difficult and laborious after treatment, the frequent occurrence of imperfect union of the joint, the occurrence of hemorrhage and sepsis within the wound, and subsequent difficult and painful locomotion, symphyseotomy became again unpopular.

Cæsarean section, with which remarkably good results had already been obtained in cases of highly contracted and deformed pelves, was destined to take the place of symphyseotomy at an early date, not only in many cases of moderately contracted pelves, but for other conditions such as *eclampsia*, *placenta previa*, *ablatio placenta*, *hysteropexy*, *threatened rupture of uterus*, *advanced disease of the heart, lung and kidney* and even in cases of slight disproportion between the parturient passage and the child's head when, for any reason, there was lack of expulsive power.

Yet, in spite of the magnificent results obtained, chiefly by skilled operators in hospitals, there are grave objections to Cæsarean section which must be considered when the operation is contemplated for relative indications alone. Abdominal hysterotomy means an extensive incision into the abdominal and uterine wall, invasion and exposure of the peritoneal and uterine cavities. The possibility of septic infection can never be entirely excluded, ileus may follow the operation, and ventral hernia as well as complications from the uterine scar in subsequent pregnancies are features worthy of most careful consideration. Because of this, renewed efforts were made, mainly by the Italian, French and German obstetricians, to overcome the difficulties and objections attending symphyseotomy.

Gigli (1903) made the first and most important forward step in modifying symphyseotomy. The burdensome after-treatment, incomplete union of the joint, and painful, difficult locomotion following this operation, were the principal features to be conquered. Gigli, believing that bony union takes place more promptly than the healing of a divided cartilaginous joint (an idea already advanced by Galbiatti and others) invented pubiotomy, division of one of the pubic bones midway between the symphysis and the inner border of the obturator foramen. He did this by cutting through the structures overlying this region, then separated with the finger the tissues lying behind the pubic bones. The results following pubiotomy were at once better than that of symphyseotomy. The after care was less troublesome and the union of the divided bone seemed quicker and better. The danger from hemorrhage and sepsis, however, remained the same. Occasionally ligamentous union between the fragments was observed.

Doederlein improved the open method of Gigli's pubiotomy by making two small incisions through the skin, one immediately above the upper and the other directly below the lower border of the pubic ramus and parallel with the margin of the bone. Through one of the cuts he introduced the index finger and with it stripped off the tissue behind the

bone. This may be accomplished from below upwards or from above downwards. Through the canal thus created, the Gigli saw is readily passed and the bone divided as in an ordinary osteotomy. After all hemorrhage has been arrested, the incisions are closed with sutures and hermetically sealed.

Bumm, in turn, modified Doederlein's method as follows: He devised a needle for passing the wire-saw. The patient, shaved and disinfected, is placed in the lithotomy position. Thumb and index finger determine the lower border of the pelvic bone to be divided. Clitoris and labium minus are drawn towards the median line and the needle is then passed along the posterior surface of the latter bone by gently depressing its handle, and, when the upper margin of the horizontal ramus has been reached, the handle of the needle is forcibly depressed and the point of it pushed through the skin. The index finger in the vagina controls the passage of the needle to prevent injury to the urethra and the bladder. When the eyelet of the needle has been brought into view, and the little button at the end of the wire-saw has been hooked into it, the needle is withdrawn and the wire follows. A handle is now attached to each end of the wire, which is then put upon the stretch and the bone sawed through in from "five to ten" movements. During the sawing the wire must not be sharply bent, but maintained at an obtuse angle as though one intended to lift up the bone with the saw.

As soon as the bone has been divided, all resistance ceases and the ends of the bone separate with a dull sound. The needle-punctures are now compressed and a tampon, to produce counter pressure, is placed in the vagina. This is sufficient to arrest promptly all hemorrhage. If this compression is neglected hematomata and other complications are apt to occur. (Of late the use of a dull needle to pass through the tissues below, behind and above the pubic bone, puncturing the skin at the point of entrance and exit, has been suggested.)

After labor has been completed, special after-treatment is unnecessary. The application of a laparotomy bandage, which will fix the gauze compresses over the puncture wounds, and a sand-bag to support the pelvic ring on either side, is sufficient. The legs are adducted and the knees firmly tied. A retention-catheter is placed into the bladder and kept there for several days in order to avoid the movements necessary to evacuate the bladder.

Bumm adds that the results of subcutaneous pubiotomy are much more favorable than those of symphyseotomy. He has seen fifty-three successive cases recover without serious complications. Only three of the children were lost in consequence of particularly difficult conditions. Doederlein reports 294 hebosteotomies. In seventy-seven of them the open method (Gigli's) was followed and eight mothers died, 10.4 per cent., in the other 217 cases he pursued his own method and only nine mothers died, 4.1 per cent. Buerger (Vienna) performed hebosteotomy twenty-one times with uniformly good results for the mother and the

loss of two children. Reifferscheid made twenty-seven hebosteotomies with excellent results; one mother died on the fifth day of embolism. Those who have performed hebosteotomy most frequently claim that the danger of hemorrhage and infection is very small, that union of the bone, as a rule, takes place promptly, and, when this does not occur, ligamentous union follows, which is a positive advantage because it renders spontaneous labor possible in subsequent pregnancies and does not interfere with locomotion. The after-care of the patient is not as difficult as is generally believed.

The results obtained with the new therapy of narrow pelvis, of which hebosteotomy and Cæsarean section now form a part, are truly startling in character. Pinard, Zweifel, Kroenig, Bumm and Doederlein reported collectively (two years ago) more than 2,000 cases of narrow pelvis, with a maternal mortality of 0.1 per cent., and a foetal mortality of only 6 per cent. Hundreds of successful cases have been reported since, especially abroad. Williams, of Baltimore, in his last report, had thirteen hebosteotomies with very satisfactory results. Montgomery, of Quincy, Ill., performed the first and only Gigli operation in 1903 with excellent results for both mother and child. Frey, of Washington, and De Lee, of Chicago, are favorably disposed towards hebosteotomy and will give the operation a thorough trial. At present the great majority of the obstetricians in this country and in Canada and England are earnestly opposed to hebosteotomy, and are not inclined to resort to it, stating that the operation does not do away with the objections pertaining to symphyseotomy. The opposition in Great Britain and North America rests solely upon theoretical grounds. In Germany, hebosteotomy was not regarded favorably at first, but now has a firm foot-hold. On the continent of Europe, everybody, who has a clinic or hospital, performs hebosteotomy. The operation is also being successfully performed in private practice at the homes of patients, notwithstanding that Doederlein, Zweifel, Pinard, Bumm, Kroenig and others, advise against this practice.

The loudest opposition on the continent of Europe against hebosteotomy comes from Otto v. Herff, of Basel.* v. Herff does not contend so much against the abandonment of the high forceps and prophylactic version in cases of moderately contracted pelvis, but insists that hebosteotomy can never take the place of artificial premature labor. He is an ardent advocate of the latter operation. Basing his conclusions upon 700 cases of hebosteotomy collected from literature, he records the "sins" of this newest of obstetric operations as follows: 0.3 per cent. of mothers died of hemorrhage; 15 per cent. were badly lacerated and of these 12 per cent. died; in another 12 per cent. the bladder was injured; 4 per cent. had permanent incontinence of urine; in 7.5 per cent. hernia developed in the split of the bone; in all 5 per cent. of mothers

*Schmidt's *Jahr-buecher*, BD. 301, 1909, Heft. 3, p. 266, and *Munch. Medizinische Wochenschrift*, December 15, 1908.

and 10 per cent. of the children died. Only Bumm, v. Herff says, has had up to this time 53 cases of hebosteotomy with a maternal mortality of 1.9 per cent. and a foetal mortality of 13 per cent. v. Herff's maternal mortality of artificial premature labor, in his clinic, is not quite 1 per cent.; in his private practice it is approximately equally favorable. v. Herff is very liberal in his indications for the induction of artificial labor; his object is to make what promises to be difficult labor easy. He says: "This is not only humane but more merciful than to subject women to the protracted tortures of a labor complicated with narrow pelvis and which, finally, may have to be terminated in a hospital with the help of dangerous major operative interferences." He further asks: "Can a little decrease in the foetal mortality atone for a single case of permanent incontinence of urine?" He states that he is able to send home 80 per cent. of living, prematurely born children and adds: "they continue to live as well as those born at term." v. Herff's criticism sounds and looks worse than it really is. Examined closely and compared with the statistics of the mortality and morbidity of the induction of premature labor, other than his own, the shafts he has discharged against the hebosteotomist lose their force and remain ineffective. But v. Herff will be taken care of by his colleagues at home.

The speaker was much pleased when he noticed in the last issue of the *American Journal of Obstetrics* (April, 1909), the report of two hebosteotomies to the Society of the Alumni of the Sloane Maternity Hospital, New York. One by Dr. James D. Vorhees and the other by Dr. R. W. Lobenstine. The result in Dr. Vorhees' case was not good in every particular but, as he says, considering the many unfavorable conditions under which the operation was performed, it was only natural to find complications. This patient, 1 para, aet. 44, had been in labor almost five days. The child was in an R.O.P. position with the head well above the pelvic brim. Ext. pelvic measurements: betw. spines, 29 c.m.; betw. crests, 30.50 c.m.; oblique, 23 c.m.; ext. conjugate, 21 c.m. The patient was stocky, with thick pelvic bones; pelvic canal masculine in type and bounded below by a narrow pubic arch.

The Champetier de Ribes balloon had been employed unsuccessfully to dispatch dilatation of the cervix. While the patient was being prepared for Cæsarean section she had an eclamptic seizure. This, in connection with her generally weakened condition, prompted Dr. Vorhees to perform hebosteotomy, Doederlein's method. Both mother and child recovered, although this case presented one of the most troublesome complications to any operation, a vesico-vaginal fistula. Dr. Vorhees says: "This must not condemn pubiotomy." The comfort of the patient and her safe, quick convalescence make quite a different picture from that of the symphysiotomies which it had been his misfortune to have charge of at the Sloane Maternity Hospital.

Dr. Lobenstine's case had been in the care of a midwife and two physicians, who had unsuccessfully attempted to apply the forceps.

Patient, a dwarf, aet. 17; 1 para, at full term. Membranes had ruptured three days before admission to hospital. Labor pains (weak) for 48 hours, severe pains the last 12 hours. Ext. pelvic measurements: Betw. spines, 22 c.m.; betw. crests, 26 c.m.; ext. conjugate, 16 c.m.; right oblique, 19 c.m.; left oblique, 18.50 c.m. Depth of symphysis, 5 c.m.; true conjugate, 7.75 c.m.; entire pelvic generally contracted. Vertex presentation. R. O. position. Dr. Lobenstine has a method of his own to perform hebosteotomy. Axis-traction forceps were applied and child slowly delivered. After delivery of the child and placenta there were found to be absolutely no lacerations with the exception of a slight abrasion at the posterior commissure which existed at the time of admission of the patient to the hospital. " * * * Convalescence proceeded quite satisfactorily from the start. Owing to a moderate infection at the time of admission, the patient ran a temperature for eight days—the highest 101.4 F. Pulse 100-120." After that, progress was absolutely normal. Ten days after dismissal from hospital, patient returned for inspection in excellent condition, and reported that she went up and down stairs several times a day without any difficulty. Her gait was normal.

Taking into consideration all the facts and figures presented above, there is only one thing left for us to do: Give hebosteotomy the first consideration in all cases of narrow pelvis for which, up to this time, Cæsarean section was only relatively indicated. No one should attempt the operation except he be experienced and skilled in operative obstetrics and gynecological work; nor should the operation be performed except under the strictest antiseptic precaution, preferably at a hospital, and the patient free from sepsis and not exhausted from loss of blood or previous efforts at delivery.

THE HOPEFUL OUTLOOK OF THE TUBERCULOSIS PROBLEM IN THE UNITED STATES.

By S. ADOLPHUS KNOFF, M. D.

Professor of Phthisio-therapy at the New York Post-Graduate Medical School and Hospital; Associate Director of the Clinic for Pulmonary Diseases of the Health Department; Visiting Physician to the Riverside Sanatorium for the Consumptive Poor of the City of New York, etc., etc.

At no time in the history of the combat against tuberculosis has the outlook been so bright, have there been so many cheerful workers for the cause, have there been so many large and generous contributions by private individuals, nor have governments ever shown a greater willingness to be helpful in the crusade against the great "White Plague" than at this present time.

The first Society for the Prevention of Tuberculosis was the Pennsylvania Society founded by Dr. Flick in 1892. Ten years later the author of this article asked eleven of the leading physicians of New York to join him in the formation of a tuberculosis association. These were Drs. Hermann M. Biggs, A. Jacobi, T. Mitchell Prudden, Joseph D. Bryant, Walter B. James, Alexander Lambert, Andrew H. Smith, John H. Huddleston, Edward G. Janeway, Henry P. Loomis and Stephen Smith. They willingly responded to the call, but it was soon apparent to us all that such an organization needed to be composed of lay as well as medical men in order to really accomplish its objects, which were as follows:

I.—The promulgation of the doctrine that tuberculosis is a communicable, preventable, and curable disease.

II.—The dissemination of knowledge concerning the means and methods to prevent tuberculosis.

III.—The promotion of all movements which provide special hospital, sanatorium and dispensary facilities for poor consumptive adults, scrofulous and tuberculous children.

IV.—The promotion of all movements which tend to prevent the development of tuberculous and scrofulous diseases, such as improving the condition of existing tenements and the erection of model tenement houses, the creation of parks, playgrounds, public baths, gymnasiums, etc.

After I had received the signatures to the appeal for the formation of an antituberculosis society or committee, of the eleven above mentioned physicians and added my own, I called on Professor Edward T. Devine, the Secretary of the Charity Organization Society, who at once realized what a tuberculosis committee could accomplish when working under

the auspices of the Charity Organization Society. It was a good thing for the antituberculosis movement in New York that the first officers of this committee, that is to say, the chairman and secretary, were two laymen, experienced in practical philanthropy. The honorable Charles F. Cox, a distinguished and active member of the Charity Organization Society, became the tuberculosis committee's first chairman, and Professor Devine served as the first secretary.

This committee has since grown to considerable proportions. It consists now of 41 active members besides a director, Mr. Lawrence Veiller, and a salaried secretary. More than half of the members are physicians and tuberculosis specialists; among the other members are prominent social workers, the heads of several municipal departments and representatives of leading charitable institutions.

Since the establishment of the New York Tuberculosis Committee, tuberculosis associations have been formed in Boston, Chicago, Cleveland and other cities, so that on January 1st, 1904, there were about 24 associations.

In February, 1905, I published in the *Journal* of the American Medical Association, a report entitled, "The Present Status of the Antituberculosis Work in the United States." I counted then 49 antituberculosis bodies calling themselves associations, societies, committees, or leagues. In May, 1905, in Washington, was held the first meeting of the National Association for the Study and Prevention of Tuberculosis under the presidency of Dr. Edward L. Trudeau. Dr. William Osler, now of Oxford, and Dr. Hermann M. Biggs of New York were the vice-presidents; Dr. Henry Barton Jacobs, the Secretary, and Surgeon-General George M. Sternberg, the Treasurer. Soon after this an Executive Secretary in the person of Prof. Livingston Farrand was appointed and it is largely owing to his energy that at the end of 1906 there existed as many as 62 antituberculosis associations. The year 1907 added 49, the year 1908, 106, and on May 15, 1909, Dr. Farrand kindly tells me that 73 associations have been added since December, so that there are at present a total of 290 antituberculosis associations in the United States.

These associations are all composed of lay and medical men and women. It would seem that this speaks well for the growing interest in the antituberculosis cause. The present membership of the National Association is over 2,100.

From January 25th to February 1st, 1904, the first tuberculosis exhibition in the United States was held in Baltimore, Maryland. This exhibition was such a complete success that soon similar exhibitions were created for the purpose of giving graphical illustrations of the cause and prevention of tuberculosis by photographs, charts, models, instruments and various devices. In 1906 the New York Committee had its own tuberculosis exhibit which was shown in different parts of Greater New York. Similar exhibits were established in various parts of the country,

one of the most important being that shown in Washington at the meeting of the National Association for the Study and Prevention of Tuberculosis, in 1907, which has since been taken to various States in the Union.

Interesting and instructive as these traveling exhibitions were and are, the International Tuberculosis Exhibition which was held during the International Congress on Tuberculosis in Washington from September 21st to October 12th, 1908, surpasses anything of the kind which has ever been shown in the world. This exhibition was brought in its entirety from Washington to New York and remained here for two months. From here it has been sent to Philadelphia where it was exhibited during February and March.

This wonderful exhibition consists of charts, photographs, maps, models, diagrams and all sorts of paraphernalia that have to do with the prevention, study and treatment of tuberculosis. Exhibits are shown from 15 different countries and from 200 associations and individuals. All in all, the exhibition includes nearly 5,000 units. It takes 50,000 square feet of floor space and 11,000 square feet of wall space for the display of the exhibition. Ten special cars and over 1,200 packing cases are required to transport it. While the exhibition was in Washington it was estimated that it was seen by 50,000 visitors. During the two months while this exhibition was open to the public in New York it has been visited by three-quarter million of people. It may be a surprise to many to learn that a visit of 30,000 a day was nothing unusual.

To see this exhibition in Washington, 7,000 members of the International Tuberculosis Congress, physicians and sociologists, came from China and Japan, from Australia, from all parts of Europe and the United States. To them it was ocular demonstration of the world's progress in the fight of tuberculosis. This exhibition was brought New York from Washington intact at a cost of over \$30,000.00. We owe the privilege of having had the exhibition in our midst mainly to the generosity of a number of philanthropists of our city who were inspired by Dr. Alfred Meyer's enthusiasm for the work, to the wisdom and foresight of our aldermen, Comptroller Metz, His Honor, the Mayor of this city, and last but not least to the trustees and officers of the American Museum of Natural History and Professor Henry F. Osborne, its distinguished president.

An additional important educational feature of all these exhibitions is the course of popular lectures always given in conjunction with them and accompanied by practical demonstrations. Thus, for example, in New York there have been physicians' mass meetings, medical students' meetings, mass meetings of public school teachers, domestic science workers, street railroad employees, trained nurses, settlement workers, post-office employees, policemen, firemen, street cleaners, college students, private school children, department store employees, etc.

A most encouraging sign of the general interest in the crusade against the great white plague was manifested recently by the sale of the Red Cross Christmas stamp. According to reports kindly furnished me from the headquarters of the American National Red Cross, about \$110,000 were collected, which means that 11,000,000 Red Cross Merry Christmas and Happy New Year stamps were sold within the short space of a little more than one month. The proceeds in each state from the sale of the stamps have gone toward the tuberculosis work of that state and particularly for tuberculosis work among children.

According to the annual report of the National Association for the Study and Prevention of Tuberculosis, the year 1908 saw the most successful organized campaign against tuberculosis in the history of medicine. Measured in money, the report says, the fight against "the great white plague" in the United States cost more than a million dollars during the last year.

The workers against the disease number hundreds of thousands who have joined the ranks during the last twelve months. More institutions and organizations have been established in the same period to array themselves against the disease than had been enlisted in the cause in all time before January, 1908.

All classes of people have taken up the fight. The labor unions are numbered among the most desperate enemies of the disease. Churches and clergymen have mustered their forces against the common foe.

The growth of the antituberculosis movement in the United States has been truly marvelous of late and the interest of the people at large has been particularly gratifying to the physicians who have endeavored for years to solicit the coöperation of non-medical men and women in the combat of tuberculosis, a disease which has just as large a social as it has a medical aspect.

To be strictly historical, however, it must be said that some of us physicians have not always been willing to recognize the importance of considering tuberculosis an infectious and communicable disease, nor that its effective control is impossible without the harmonious working coöperation of the physician and the health department.

My esteemed friend and teacher, Professor Hermann M. Biggs, M. D., the General Medical Officer of the New York City Health Department, the pioneer of the municipal control movement, to whom a great deal of credit is due for the marvelous reduction of the tuberculosis death rate in New York, states the matter comprehensively when he says: "The efficient administrative control of tuberculosis requires:

1. The compulsory notification of all cases.
2. The free bacteriological examination of the sputum in all instances of suspected diseases in order to facilitate the early and definite diagnosis of pulmonary tuberculosis.
3. Educational measures by the distribution of circulars designed to reach different classes of the community, directly with the aid of em-

ployees of the health department or by the coöperation of tuberculosis committees or associations.

4. The visitation of the consumptive patients in their homes by district nurses.

5. The disinfection or renovation of rooms or apartments which have been vacated by consumptives either by death or removal.

6. The repeated visits by district nurses of the tuberculous in the tenement houses when for any reason it has been undesirable or impossible to remove the patient to an institution.

7. The distribution of suitable food, especially milk and eggs, to the families of the tuberculous in destitute circumstances.

8. The provision of free dispensaries, hospitals for the care of advanced cases, sanatoria for the treatment of earlier and more hopeful cases.

9. The prohibition of admission and treatment of tuberculous patients into general wards of general hospitals.

10. The enactment and enforcement of regulations prohibiting spitting in all kinds of public conveyances, such as street cars, steam railroad cars, ferry boats, etc., and on the floors of public buildings and places of public assembly, such as ferry houses, depots, etc., and in the halls of tenement houses, theaters, in factories, etc. Spitting on the sidewalk should also be prohibited."

What has been the result of the coöperation of the New York Health Department's work with physicians, philanthropical societies, philanthropical individuals and the community at large?

It must be remembered that real active tuberculosis work on the part of the New York Health Department began in 1887, when the two consulting pathologists of the department, Professor T. Mitchell Prudden, M. D., and Professor Hermann M. Biggs, M. D., advocated the adoption of measures almost as comprehensive as those now in force. (However, it was only in 1893 that a system of partially voluntary and partially compulsory notification was adopted.) The New York Tuberculosis Committee of the Charity Organization Society was only founded in 1902. Yet during the last twenty years there has been a rapid fall in the tuberculosis death rate in New York City, and this notwithstanding the fact that the conditions in many respects are most unfavorable, because of the very dense population in the great tenement house districts of the city and the large element of foreign-born inhabitants. It should be remembered that in no city of the world is there such a density of population as exists in many of the wards of the Borough of Manhattan. In numerous districts of the East Side the population varies from 600 to 800 or more persons to the acre, whereas the most densely populated districts of Paris, London, Vienna, or Prague have only 400 or less persons to the acre. When this fact is kept in mind the difficulty in reaching the large foreign-

born element of the population, which speak their native tongue and retain their native customs, will be appreciated.

Yet, in spite of all these disadvantages there has been during the last twenty years a decrease of more than 55 (from .67 to .26 per 1000) per cent in the death rate in children under fifteen years from pulmonary tuberculosis and tuberculous meningitis, these being the two forms of tuberculous disease in which an approximately accurate diagnosis is likely to be made in children. It is precisely in this, the youngest portion of the population, that one would first look for definite results from the enforcement of measures for the restriction of this disease. There has also been a decrease in the total tuberculosis death rate between 1886 and 1906—a period of twenty years—of 40 per cent.

A considerable fall in the death rate from tuberculosis has been noted in various countries and cities, and it has been maintained and apparently shown that the decrease was only in a small part a real decrease and was accompanied by an equal increase in the death rate from the acute pulmonary diseases, notably pneumonia. The claim has been made that there has been simply a substitution in the death returns of pneumonia for tuberculosis. Very great care has been taken in New York City to investigate this phase of the problem, and it may be said in the first place that no corresponding increase has taken place in the death rate from the acute pulmonary disease.

For much of the detailed information given above I am indebted to Dr. Biggs' admirable paper "The Administrative Control of Tuberculosis."

While New York has perhaps led in the antituberculosis work in the United States, in justice to the workers in other places it must be said that a goodly number of American cities through their health officers or by their tuberculosis committees or associations have also done most creditable antituberculosis work and materially helped to reduce the death rate in their localities.

It remains now only to mention the status of dispensaries and special hospitals for tuberculosis in the United States and show their gratifying increase. According to the records of the secretary of our National Association for the Study and Prevention of Tuberculosis, before the year 1905 there existed throughout the United States 115 sanatoria and special tuberculosis hospitals. In the year 1905, 15 of such institutions were established; in 1906, 17; in 1907, 35; in 1908, 71, and since then to May 15, 1909, 45 have been added, so that we have to-day in the United States all told 298 institutions where patients are housed, boarded and kept under constant medical supervision. These institutions are justly called "closed establishments," that is to say, they are exclusively consecrated to tuberculosis cases and no other class of patients are received there.

For the treatment of ambulatory cases, that is to say, patients still up and about, often able to work but who for various reasons cannot

be received in sanatoria or special hospitals, there existed before 1905, 19 tuberculosis dispensaries. During the year 1905, 5; in 1906, 11; in 1907, 51; in 1908, 86, and since then to May 15, 1909, 50 of such tuberculosis dispensaries were added so that to-day there are no less than 222 special tuberculosis dispensaries in the United States.

Besides such tuberculosis dispensaries, there are in the United States at this moment a few institutions such as day camps, night camps, and the class treatment for the tuberculous poor. The term day camp defines itself. Tuberculous patients go in the morning, or are taken in an omnibus, to the camp, which is usually situated at no great distance from the city, but in a healthful locality. There the patient rests on a comfortable reclining chair during the day, is watched over by trained nurses and visited, treated and carefully instructed by an experienced phthisiotherapist. A substantial meal at midday and an afternoon luncheon are given to him.

Night camps are for the purpose of enabling tuberculous patients who are at work during the day to sleep in good, well ventilated quarters and thus prevent them from reinfecting themselves or infecting others in densely crowded homes or lodging houses. These night camps are, of course, also under medical supervision and physicians and nurses are in attendance.

This in brief is what has been done in the United States and it entitles us to look upon the tuberculosis problem with a certain degree of hope that the mastery over the disease may become possible.

Now let us consider the greatest needs which, in our opinion, present themselves at this moment and which we must remedy if we are in earnest in our attempts to solve the tuberculosis problem in all its aspects.

First of all, there is an urgent and crying need of more sanatoria and hospitals for tuberculous children. In our own great city of New York, in spite of its admirable work for the consumptive adults, provisions for tuberculous children have been utterly neglected. There are in New York at least some 4,000 tuberculous children suffering with the various forms of either surgical or pulmonary tuberculosis, but besides our little Seabreeze Sanatorium with its 54 beds, there is as yet in New York not a single institution devoted to the care and treatment of tuberculous children. A similar condition prevails throughout the United States. Yet the curability of tuberculous children is even greater and the cures more lasting than in adults.

I pleaded first for such institutions at the time of McKinley's death. I suggested as a McKinley memorial a seaside sanatorium with pavilions for each state, for the treatment of children suffering from tuberculous or scrofulous diseases, or predisposed to consumption. For myself, I believed then, and believe to-day, that we could not honor our martyr president better than by erecting to his memory such life-saving institutions for children. Our good McKinley had two children and these

he lost. He dearly loved little children, and the creation of a sanatorium for the treatment and prevention of a disease with which so many American children are afflicted would surely be as fitting a memorial to this great man and lover of children as the monument of stone erected in Dayton. "McKinley Sanatorium for the Treatment and Prevention of Tuberculous Diseases in Children" should be the name of the institution suggested. The meaning of the name William McKinley, written on the portals of these houses of hope for many a suffering mother's heart, would be made clear to the little inmates by their teachers and grown-up friends.

In letting the children of parents of means who are well and happy bring their mites toward a movement of this kind, a lesson of charity and patriotism might be taught to them as well. There will be found in every community responsible and patriotic citizens to take this matter in hand and bring it to a successful issue. Each State could contribute enough to have its own pavilion to which to send its children. The Atlantic and Pacific coasts should be dotted with such institutions, one or two pavilions for each state, according to its needs. Good schools should be attached to these sanatoria so that the intellectual development of the children might not suffer.

What to my mind is as much needed as a sanatorium for the care of children already tuberculous, is an institution for children of tuberculous parentage who are not yet tuberculous but strongly predisposed to the disease. It has often enough been demonstrated that by timely preventative treatment these children can grow up to become strong men and women and useful citizens in the community. When the parents of such children are poor and obliged to live in crowded quarters, the children almost invariably become tuberculous by post-natal infection. Since it is extremely rare that a child comes into the world tuberculous, the large number of tuberculous children of tuberculous parents can only be accounted for by infection after birth. Proper bovine and milk laws and their strict enforcement is, of course, also of paramount importance if we wish to diminish tuberculosis in childhood.

As an important preventive measure in the spread of tuberculosis, our authorities must be more careful to separate the tuberculous prisoner from the non-tuberculous prisoner and to give the former the best possible care so that he may leave the prison not only morally but also physically a better man. To expose the non-tuberculous prisoner to the danger of contracting the disease is a crime which society has no right to commit. No matter how great or terrible the crime that has caused the prisoner's confinement, while society has a right to punish him, we are ourselves criminally responsible if we expose the morally diseased to the danger of contracting tuberculosis in addition. There are prisons in which the percentage of tuberculosis varies from 25 to 40, and I am glad to state that some prison authorities have realized the seriousness of the condition by separating the tuberculous from the

non-tuberculous inmates, by establishing special wards for the more advanced cases and agricultural colonies for the early ones. The same care should of course be exercised in reformatories, asylums for the insane, almshouses, orphan asylums, nunneries, cloisters, boarding schools, etc.

The periodic examination for tuberculosis of all teachers and pupils at our public schools is of course likewise of paramount importance and so is the provision for special schools where tuberculous teachers and tuberculous pupils may find opportunity to do their duties without endangering others and may be cured at the same time.

The necessity of the examination for tuberculosis of all employees of factories, workshops, department stores, federal, state and municipal governments, etc., must, of course, be evident if we wish to solve the tuberculosis problem in earnest. It is by the early discovery of the disease and the timely and appropriate treatment that the greatest number of lives are saved.

What an economic gain the saving of these lives would mean to the United States has been graphically described by Dr. Irving Fisher, Professor of Social Economy of Yale University, in an interesting paper read last October at the International Tuberculosis Congress in Washington. He estimated the death rate from tuberculosis in all its forms in the United States at 164 per 100,000 of population, and the number of deaths in 1906 as 138,000, and he summarized as follows: "At this rate, of those now living in the United States 5,000,000 people will die of tuberculosis. The average age at death for males is 37.6 years; for females 33.4 years. The expectation of life lost (though estimated on a specially high mortality rate) is at least 24 years, of which at least 17 fall in the working period. The average period of disability preceding death from tuberculosis exceeds three years, of which the latter half is a period of total disability.

"The money cost of tuberculosis, including capitalized earning power lost by death, exceeds \$8,000 each death. The total cost in the United States exceeds \$1,100,000,000 each year. Of this cost about two-fifths, or over \$440,000,000, falls on others than the consumptive. An effort to reduce the mortality by one-fourth would be worth, if necessary, an investment of \$5,500,000,000."

If we add to this economic loss the tears and sorrow caused by the untimely deaths of many a useful member of the family, the mental and physical suffering of millions of our fellowmen, may we not well say it is time to bid halt to a useless slaughter?

Tuberculosis is a preventable and curable disease. What can be done by lay and medical men in uniting to form antituberculosis societies has been already stated. But there are a great many more of such societies or committees needed. For the treatment of the thousands of cases, children and adults, which should be taken care of in institutions, we need more sanatoria and special hospitals; for the thousands of

cases among the poor which in the meantime must be treated at home, we must institute the class method similar to that of the Emmanuel Church which consists in providing the best possible hygienic, dietetic and open air treatment in the home of the poor under the direction of an experienced physician and trained nurses and the help of friendly visitors.

It has been my privilege to become acquainted with the Emmanuel Church work as far as tuberculosis is concerned. That there may be no misunderstanding regarding my position in the matter and that of the clergymen or physicians connected with that movement, I will terminate this article with an impartial and unbiased exposition of my views on the subject. There is no doubt that the work of the Emmanuel Church people, and I mean by church people the clergymen, physicians and laymen who united in the work, has been surprising and the results are not only astonishing in nervous and mental diseases but also in tuberculosis. Dr. Joseph Pratt, one of the medical men in charge of the tuberculosis class of the Church, reports as much as 80 per cent of cures of pulmonary tuberculosis, composing all the stages of the disease. While I have never for a moment doubted the accuracy of their so unusually favorable statistics of cures, I was interested to find out why it was possible for these men to obtain and to do what to the best of my knowledge has never been attained or done before. I did not inquire how they cured the habitual drunkard, the hysteric, the mentally depressed or those afflicted with functional disorders, but I did want to learn all I could about their phthisiotherapy. In the true spirit of humanity and of brotherly love, they made no secret to me of their methods and I gladly state them here. The above mentioned 80 per cent of cures relates to 28 cases of pulmonary tuberculosis in various stages of the disease. They have been treated for two long years in classes in or near their homes after the most improved hygienic and dietetic treatment with rest in the open air, constant supervision by nurses under the guidance of an experienced phthisiotherapist.

This much for the medical treatment and what was done for the patient's mental and physical comfort. Without imposing their religious conviction, the doctors of divinity went among these patients and assisted by friendly visitors, inspired them with hope and comfort, talked to them of home, children, wives and husbands. Then the friendly visitors looked after the wives and children, mothers or sisters in the home. In all instances when the breadwinner was the invalid, these good women took it upon themselves to see that there was nothing wanting in that home that was without a breadwinner. In other words, the invalids and their families were taken care of by the Emmanuel Church people for two years. Perhaps never before in their lives had these individuals so much peace of mind, happiness and contentment as when lying on their reclining chairs taking the rest cure in the open air and thinking of their well-provided family and their prospective recovery. And all

this without being away from home. The element of nostalgia (homesickness), so distressing to many sanatorium patients, did not exist. Herein lies the success of the Emmanuel Church movement as far as tuberculosis is concerned. Will it be necessary for the general practitioner in order to cure tuberculosis, to imitate the Emmanuel Church movement in all its details and will he not be able to obtain similar success without calling in the brethren of the church? I have already said how greatly I respect and admire the work done by the Emmanuel Church, but this will not prevent me from making the following statement: I firmly believe that if the family practitioner can interest philanthropists, noble hearted men and women inside and outside of the church, to help him, he need not be discouraged. If he can find a congenial clergyman who, remaining in his sphere of comforting the soul, is willing to help, he should by all means welcome him and work with him. However, I do not think it is of great import whether the physician or the clergyman gets the means together to enable the former to treat his consumptive poor for two years and to provide for their families for the same space of time.

If I were to make a suggestion, I would venture to advise those who intend to interest themselves in the treatment of the consumptive poor to follow the example of our brethren in Germany. They presented the cause to the women of Germany who responded in various sections by organizing themselves for the purpose of giving systematic and practical help to families whose breadwinners are incapacitated by tuberculosis. I refer here particularly to the society known in Germany as "Patriotische Frauen von Charlottenburg" (Patriotic Women of Charlottenburg). This organization works under the auspices of the German Red Cross Society.

What a useful field of labor this would be for our own Red Cross associations in time of peace.* They could thus help to combat an enemy far more terrible, far more murderous, far more costly than the mightiest army of the mightiest nation. A work more patriotic and more helpful toward the solution of the tuberculosis problem it would be difficult to conceive. A movement of this kind would by no means exclude the collaboration of the doctors of divinity or Sisters of Charity. There is a second organization working for the same purpose, called "German Lay Sisters of Charity." But whoever works with the physicians, be they patriotic women, mothers, wives, sisters or sweethearts, whether they work with or without the clergy, if they have the means necessary to spare the patient anguish, anxiety and sorrow, and give him the best in phthisiotherapy as long as he needs it, I have no doubt that their results will equal those of the Emmanuel Church.

However, to attain these results, they must have not only the material means but a complete knowledge of phthisiotherapy. They must have

*See *New York Medical Journal*, Nov. 28, 1908: "The Red Cross in the Anti-tuberculosis War."

coworkers not only of material wealth but of wealth of heart and mind, and above all, the physician himself must be a picture of perfect health, an inspiration of hope, an example of good cheer, of genuine sympathy and of complete devotion.

From the foregoing it would seem that if federal, state and municipal governments will unite with private enterprises in the combat of tuberculosis, if the medical profession, the clergy and the layman will do their duty, if the population at large would be so educated that they all can be helpful in this work, there is no reason why we should not prophesy a complete eradication of tuberculosis as a disease of the masses. To be brief, it may be said that what is necessary to attain this end is the combined action of a wise government, well trained physicians and an intelligent people.

SPECIAL ARTICLE.

DIAGNOSIS AND TREATMENT OF INTRATHORACIC EFFUSIONS.*

By ELSWORTH SMITH, JR., M. D.

The most difficult problem that the internist faces before calling upon the surgeon for advice in the treatment of these conditions is that which confronts him when the question arises as to whether he has to deal with effusion in the pleural cavity, or a consolidation in the lung. This is especially true of patients in early life and particularly in children. In the child when the pleural cavity is completely filled, all the physical signs may seem to point to consolidation, that is, all the physical signs with one exception, and which is, in my judgment, one of the most important points of differentiation between effusion and consolidation; I refer to tactile fremitus. I have frequently seen cases in which all the indications pointed to consolidation with the exception of this one sign. Recently I had a case of empyema which presented many of the symptoms pointing to a pneumonic consolidation, including bronchial breathing, and the diagnosis of pneumonia had been made. There was diminished fremitus and some displacement of the heart. The partial disappearance of the fremitus, taken in conjunction with the full history of the case, induced me to advise puncture, which was done by Dr. Mudd, and the presence of an empyema established. That case illustrates the difficulty we often meet in arriving at a differential diagnosis between effusions in the pleura and consolidations of the lung, especially in children, although we may meet with the same kind of trouble in adults. An instance of this kind occurred at the City Hospital, the case causing a very lively discussion among the entire staff as to whether the condition was consolidation of the lung or effusion in the pleura. There was marked extensive bronchial breathing, but diminished fremitus and displacement of viscera. Aspiration discovered the fluid.

Another class of cases which presents great difficulty in arriving at a correct diagnosis is met with when there is present a consolidation of the lung tissue, with a filling up of the bronchial tubes and a shutting off of air from the lung. Such a condition is occasionally seen in pneumonia, but the cases giving us the greatest difficulty are those in which we have to differentiate a malignant condition of the lung, with or with-

*A discussion by the members of the St. Louis Surgical Society and the St. Louis Society of Internal Medicine in joint session, March 10, 1909.

out effusion. Not infrequently we see cases of malignancy when all the signs point distinctly to effusion in the pleura. There is an infiltration of the large bronchial tubes which shuts off the air from the lung and the question arises whether we have a consolidation of the lung or an effusion in the pleura, as frequently these two conditions exist coincidentally. Of course the only method of differentiating, under such circumstances, is by aspiration of the pleural sac.

One point I should like to bring out clearly is in reference to the value of the change of the line of dulness observed in pleuritic effusion with the change of position of the patient. Cabot, in his work on physical diagnosis, states that he attaches very little importance to this sign. Notwithstanding this assertion by Dr. Cabot, I have come to rely upon this observation in differentiating between consolidation of the lung and pleural effusion as being, perhaps, more important than any other single sign, excepting the tactile fremitus. In addition to these signs I believe another most valuable indication in differentiating between fluid in pleura and consolidation of the lung to be the displacement of the viscera, especially of the heart and liver.

I believe, furthermore, that a blank aspiration, even though done by the surgeon, does not always mean the absence of a fluid in the pleural cavity. This fact was impressed upon me in a case which Dr. Mudd and I saw together. The patient had been seen by several internists, who had performed thoracocentesis several times without obtaining any pus, and had therefore excluded empyema. When the case came under the care of Dr. Mudd and myself at St. Luke's, I mentioned my experience in regard to blank aspirations, and said that I believed the signs still spoke for pus in the pleura. The patient was anesthetized and aspirated without result at first, but upon increasing the suction as much as possible, one drop of pus was obtained; upon this evidence the pleura was opened and the pus located.

The dread that is always uppermost in the mind of the internist, when contemplating an operation for exploring the pleura, is the fear of an artificial pneumothorax, and I believe the surgeons do not, as a rule, feel any more comfortable than we do under such circumstances. I should like to hear from them further upon this point as to whether we may feel perfectly justified in opening the pleura, even though aspiration has not established the presence of fluid or pus, and also whether the danger of an artificial pneumothorax is great enough to make the operation a hazardous procedure.

DISCUSSION BY DR. W. E. FISCHER.

Surely the internist has been persuaded that the surgeon is capable of taking a very broad view of medicine. It must have suggested itself to the surgeons, as it has to me, that it might be well, in the light of modern medicine, to regard the erstwhile internist chiefly a diagnostician.

We all realize when such a subject as "Diagnosis and Treatment of Intrathoracic Effusions" comes up for consideration, that the important task of the internist is a diagnostic one. The diagnosis having been made, the internist is willing enough to confer with a surgeon on the propriety of surgical interference.

To review in this Society the diagnostic points of hydrothorax in connection with pleural effusions, might appear elementary. Physical signs would usually declare typical cases. However, physical signs alone can easily mislead. I would, therefore, remind ourselves of the great importance of a carefully considered history, as well as the symptoms, and a study of temperature curves. Who among us has not been in doubt in differentiating between pneumonia and pleural effusions? The most expert among us, with reference to physical diagnosis, and the most pedantically careful observer of symptoms, must needs frequently resort to the laboratory before a diagnosis of pleural effusion versus lobar pneumonia can be established; and, even then, an exploratory puncture alone will solve the doubt. Theoretically, the physical signs alone should answer. But, who has not met with cases of pleural effusions in which vocal resonance, vocal fremitus, and even bronchial breathing are present, and breath sounds not seriously modified? On the other hand, the classical, physical signs are not always in evidence in pneumonia. In both conditions skodaic resonance may be present. It may be especially difficult to differentiate a pneumonia away from the periphery of the lung, with a slight fibrous pleural thickening, from a pleural effusion. When signs of displacement of the heart, liver and spleen can be determined in conjunction with signs and symptoms that justify a picture of effusion in the pleural cavity, the diagnosis is not difficult; but, fortunately for the patient and unfortunately for the diagnostician, pleural effusions, even of a relatively high degree, do not always bring about displacement of these viscera. And then, too, we must not be unmindful of the fact that the heart may be displaced by consolidated lungs.

Must the stamp of the surgeon's approval go with our own judgment before resorting to the final test of exploring for fluid when the diagnosis is still in doubt? And if so, can the surgeon give the internist the assurance that his efforts in locating fluid in the pleural cavity is any more certain of results than that of the internist? Or, will not the surgeon and internist have to make confession that the picture of fluid in the pleural cavity, drawn with all the skill of the careful diagnostician, its lines and outlines so well determined that there remains no reasonable doubt of its immediate location, will fail of demonstration even after the invasion of the cavity with the cannulated needle of the aspirator?

The next question, in which the patient is more particularly interested—if fluid is demonstrated in the pleural cavity—is, when should the cavity be emptied of the fluid? I am not ready to consign to the surgeon patients with serous pleural effusions. We all know that absorption of serous effusions frequently takes place. Should we not also be mind-

ful of the fact that surgical accidents do occur in even so simple an operation as thoracentesis?

Of course, there comes a time for surgical interference. It is imperative to enter the pleural cavity early, if there is a suspicion of a neoplasm. It is no less imperative to empty the pleural cavity if pus, be the cause what it may, be present. This character of an effusion can often be determined before operation by taking a careful anamnesis and making a careful study of bedside notes. This point the internists will agree upon. Whatever the character of the pleural effusion may be, if the volume be large, thus interfering with the subjective comfort of the patient, or if there is reason to fasten the diagnosis of an empyema on your patient, call in the surgeon and have him share the responsibility by exercising the surgeon's prerogative of using the knife or the aspirator.

By ALBERT E. TAUSSIG, M. D.

As an adequate discussion of the subject would take up far more time than is at our disposal, I shall call attention merely to the place of the laboratory in the diagnosis of intrathoracic effusions. I realize that the anamnesis and the physical examination are incomparably more important than the laboratory work, but the latter does give us information that is often distinctly worth while.

The method known as cytodagnosis is frequently of value. The pleural fluid is centrifugated before it has had time to coagulate, the sediment is spread upon a slide or coverglass and stained, preferably with Jenner's stain. A lymphocytosis speaks for a tuberculous process, the presence chiefly of neutrophils for pus infection, while large numbers of endothelial cells indicate a transudate rather than an exudate. The responsible microorganism can often be found if careful search is made for it.

A method in which I have been much interested of late, consists in depositing a drop of the sediment upon some Loeffler's culture medium and incubating at 55°. This can conveniently be done in a paraffine oven. The sediment from an effusion due to a pyogenic microorganism will digest the culture medium, causing a cup-shaped depression; a tuberculous exudate will produce no effect upon the medium. This phenomenon depends upon the fact that the neutrophil cells present in pus infections produce a proteolytic ferment, while the lymphocytes, characteristic of tuberculous exudates, do not.

By DR. HORACE SOPER.

The difficulty experienced in attempting to locate the effusion in the pleural cavity by means of the aspirator, as has been pointed out by Dr. Smith, reminds me of a case of a child with symptoms pointing to

fluid in the chest. After a general practitioner had punctured in various directions, an internist was called, who also failed to find pus. One day the child, while running about the yard, coughed up pus. The case illustrates the point,—that we should not give up, when the symptoms indicate a collection of fluid in the chest, even though the general practitioner, the internist and the surgeon all fail to demonstrate the location of the accumulation. In such cases I believe we will find the x -ray of considerable assistance in clearing up the diagnosis; and particularly in cases where the collection of pus has become encapsulated radioscopic examinations are successful in depicting shadows which indicate the location of pus. The x -ray will also be a valuable means of determining the presence of mediastinal growths, with or without effusion, and as a means of differentiating between encapsulated effusions in the mediastinum and solid growths.

By WALTER FISCHER, M. D.

My personal experience in cases, the nature of which is under discussion, has been chiefly confined to observation of the results—the successes and failures—of other men, and therefore I have little in the way of personal experience to draw from. I am very glad, however, that the x -ray has been mentioned as a means of differential diagnosis. While in Berlin last winter the use of the x -ray as one of the methods of physical diagnosis was emphasized very strongly by Prof. Kraus; and, in fact, he said he did not consider a physical examination complete until an x -ray examination had been made.

In regard to the change of the area of dulness, with the change of position of the patient in pleuritic effusion, as a mark of differentiation from consolidation of the lung, one of the assistants of Prof. Kraus showed a number of photographs by means of which he was able to demonstrate a collection of fluid in the cavity and a consolidation in the area of lung adjacent to the pleura. In these cases he said there was no great change in the position of the tumor associated coincidentally with change of position of the patient. If the collection of fluid was absolutely free in the cavity, typically seen in hydropneumothorax, we would get, in addition to the line of dulness, an absolutely horizontal line in the plate. By studying x -ray pictures we should be able to differentiate more clearly between effusions alone and effusions existing secondary to or in conjunction with a consolidation of the lung. In some few cases I have noticed in encapsulated empyemas where we have bronchial breathing with absence of tactile fremitus, that we have an increase in the whisper more than in the spoken sound. In the cases that I have seen I have laid stress upon that sound and in several cases the diagnosis was confirmed by exploration.

By H. G. MUDD, M. D.

In regard to the dangers of pneumothorax, following an exploration of the chest which fails to reveal the presence of effusion, some practical experience has caused me to consider that the danger is slight, and the probability of its occurrence generally overestimated. This was well illustrated in a case upon which I performed the Halsted operation, in which the pleura was extensively opened and a suction of air into the chest occurred when the opening was made. I immediately covered the aperture and finished the operation, but the patient showed no symptoms whatever of disturbance due to the introduction of the air.

Referring to the statement made by Dr. Myer, relative to the existence of pus in the pleural cavity, which had its origin outside of the cavity, it has been my privilege to see several cases where there was a breaking of an abscess from below; an abscess in the liver, or possibly an appendical abscess breaking into the thorax. In these cases the diagnosis is sometimes extremely difficult to establish. The diagnosis of an abscess in the liver rupturing into the thorax is not, as a rule, such a difficult matter, but if allowed to go unrecognized for some time and the pus break into a bronchial tube, the diagnosis is complicated very seriously and often makes an exploration absolutely necessary. I can recall cases in which it was impossible to determine the condition exactly, but other evidence left no doubt of the existence of pus in the liver, in the thorax, or in the subphrenic space. An exploratory operation in the mid-axillary line, exposing the diaphragm and the lower portion of the pleural cavity, enables the surgeon to locate the pus collection definitely. In these cases we could determine, either by aspiration or examination, the presence of pus and get at it. Such cases have convinced me that the dangers of pneumothorax are not as great as some have feared they were.

The difficulties of determining the conditions in those abscesses which break from below are very great. An abscess in the liver, breaking into the thorax and bronchus, is not so very rare. The diagnosis between a pleuritic purulent effusion and abscess of the liver is difficult to make. When I was quite a young man, a negro came under my care. There was absolute dulness from the costal border to the clavicle, and upon examination I thought I had to deal with pleuritic effusion. I asked an older practitioner to examine the case, which he did. He agreed with me that there was a large quantity of pus in the chest. I aspirated through the sixth interspace in the axillary line and drew off quite a quantity of pus, but there was a suspicious appearance to the pus, due to the fact that there were large masses in it, which led me to suspect that the case was one of abscess of the liver. A microscopic examination confirmed this suspicion. The enlarged liver had pushed the lung up, but the liver had not enlarged downward. The quantity of pus drawn off filled a water bucket. There was no enlargement of the liver

below the costal margin, but the lung was compressed upwards so greatly that the case had the appearance of an empyema.

I was glad to hear Dr. Myer's remarks in regard to the value of a microscopic examination of the fluid for the purpose of determining whether the affection is of a tuberculous or malignant nature. I recently had a case of malignant tumor of the breast of a good many years' standing, which I removed, doing the Halsted operation. Some weeks after the operation the patient complained of dyspnea, quite marked. Upon examination Dr. Smith found, in the left side of the thorax, unmistakable signs of fluid. We aspirated and drew off 20 ounces of fluid, stained with blood, but whether the bloody appearance of the fluid was due to aspiration or not, I do not know. It is now some three weeks since the fluid was drawn off and there has been no re-accumulation and the patient is apparently well. A microscopic examination of the fluid was made at the time to determine whether malignancy was present or not, but the examination did not result in a definite conclusion concerning the character of the fluid.

I was somewhat surprised to hear Dr. Lutz's remarks about the Estlander operation being so unsatisfactory, since that is quite contrary to my experience with this operation in old empyemas with the lung adherent to the pleura. In many of these cases it seems impossible to secure an ablation of the pus cavity without removing a portion of a number of ribs, but the results, as a rule, are favorable after such resection. Occasionally, however, I have found it advisable, when resection of ribs was not successful in controlling the condition, to do the more severe operation—the Schede operation—with excellent results.

By M. B. CLOPTON, M. D.

A few suggestions have come during the last few years which make it possible, perhaps, in the future to change our method of treatment somewhat by the introduction of over-pressure or under-pressure apparatus, the use of which has led to a new treatment of empyema, and, although I have had no personal experience with the method, very favorable reports have come from the clinics in which it has been used. The impression that empyema must be continuously drained, was gained largely from the fact that when the chest was once opened it was a pretty hard matter to close it and not leave an air space. The use of the under-pressure apparatus or the over-pressure apparatus enables the operator, in cases seen early, before the pleura is a granulating surface, to evacuate the pus and then close up the thoracic wall. Reports from a large number of cases treated in this manner indicate that immediate healing takes place in a large majority of the cases.

By PAUL Y. TUPPER, M. D.

I want to emphasize my belief that pleuritic effusions ought to be dealt with early by aspiration. I do not agree with the statement by one of the internists that this procedure is attended with any considerable amount of danger.

There is one point about the introduction of the tube for the purpose of draining the chest which I believe should be emphasized. Some surgeons endeavor to resect through their first incision, the lowest rib bordering on the cavity. This method I believe is attended with danger. I have seen the peritoneal cavity entered through a thin diaphragm in the effort to remove a portion of the rib at the bottom of an effusion in the chest. At any rate, we are apt to get below the point of pus accumulation if we make an effort in this way to locate the bottom of the cavity. It has been my custom for years, and I teach this method to my classes, in draining the cavity, to go first well above the lowest portion of the cavity and remove a section of rib, then to put the finger in and, after finding the lowest point, resect a portion of rib here. Through these two openings a through-and-through drainage tube, carrying a "drag," is introduced.

By FRANK J. LUTZ, M. D.

At the meeting of the Missouri State Medical Association in 1895, I read a paper on pyothorax, in which I endeavored to lay particular stress upon the clinical symptoms manifested in these cases. The early recognition of an accumulating effusion in the pleural sac, and the means for doing this, I dwelt upon at such length as the importance of the subject warranted; and I endeavored also to call attention to the peculiar conditions of the thoracic wall, as well as the altered visceral pleura, which interfere in chronic cases with the proper expansion of the lung, even after the pleural effusion has been evacuated through an intercostal opening, or by the excision of a portion of the rib.

During the fourteen years which have elapsed since the meeting referred to, two additions have been proposed to the means by which pleuritic effusion, purulent or serous, might be recognized.

The paravertebral triangle of dullness, Grocco's sign, so-called, has been fairly well established as the constant associate of fluid collections in the pleural sac. As you know, it is found on the opposite side from that in which the effusion occurs along the spine, and is triangular in its outline. Quite naturally, more was claimed at first for this symptom than a larger clinical experience has warranted; and, far from being pathognomonic of pleural effusion, wider observation has shown that abdominal conditions,—ascites, subphrenic abscess, subphrenic tumors, solid and cysts,—enable the careful diagnostician to map out Grocco's area of percussion dullness on the opposite side.

The use of the Roentgen ray as a diagnostic means in pleuritic effusion must, in the largest number of cases, be beyond the reach of the practitioner. Of course, with portable x -ray apparatus perhaps a larger percentage than formerly can get the benefit of the shadow which is thrown by a pleural effusion of sufficient density, or which has been rendered observable by intrathoracic injections; but for the average practitioner, interesting and demonstrating as the skiagraph is, it must not be counted upon as a necessary apparatus for making the diagnosis.

I desire this evening to call attention to two things in connection with pleuritic effusion. First, the necessity for the early removal by mechanical means,—aspiration, with recognized precautions,—of effusions into the thorax as soon as symptoms of labored respiration make their appearance, and furnishing an avenue of escape, through an intercostal opening or by the excision of a portion of a rib, to the effusion which is either primarily purulent or becomes so. Whilst experience in the dead-house cannot fail to impress us with the fact that many cases of pleurisy with effusion must have recovered without mechanical intervention, yet experience at the bedside teaches us that the removal of effused serum from a lymphatic sac, especially if that surround such important organs as those surrounded by the peritoneum and the pleura, results in speedier recovery of the organ, the disturbance in which has given rise to the effusion. In other words, increased experience has taught us that a pleuritic effusion, removed early, means early restoration of function to the inflamed pleura and prevents those disturbances, which we dread so much, as the sequelæ in the heart and lungs of patients who are suffering from pleurisy with effusion. A more frequent early paracentesis thoracis will reveal more frequently the primary purulent effusion. The purulent character of the effusion, once established, the patient and his friends rarely, and the up-to-date physician never, hope for its absorption. No clearer demonstration can be made to a patient or his friends than to exhibit to them the hypodermic syringe filled with pus. I believe I am warranted in saying, from my personal observation, that an early diagnosis in pleuritic effusion is made much more frequently than when we discussed this subject fourteen years ago. With local anæsthesia, an intercostal incision, or the removal of a segment of a rib, is no longer an operation of great magnitude.

The next point to which I wish to call your attention is the treatment of the visceral pleura in operations for empyema. I voice the sentiments of surgeons of experience when I say that at best the deforming Estlander operation gives unsatisfactory results. In the past we have paid too much attention to the thoracic wall of the pleural abscess and not given enough attention to the visceral pleura. It is true that formerly, when cases of empyema were long neglected, the physical surroundings of the lung had been so fashioned that the normal expansile property of the lung was entirely destroyed; and quite naturally the occlusion of the abscess cavity was expected to be brought about by the

forcing in of the chest wall, either deprived of its bony structures or with them still attached. With an earlier recognition of the condition on the part of the practitioner, we will observe fewer cases in which the pleural surface has been so enormously thickened as never to be absorbed. I think we have it within our power to assist nature materially in removing the thick swath into which the visceral pleura has been converted, by free incision of the pleura. The former fear of hemorrhage by incising the lung, is not justified by experience. Very decided curetting of relatively recent cases, and free incision of the pleura in strips, I have practiced for the last ten years. If free incisions are made into the visceral pleura, extending down to the lung tissue, or, for that matter, into it, and the resulting grooves are packed with iodoform or sterile gauze, you will observe a wonderful change in the surface of the pleura, even after the first dressing; the gap has become wider in twenty-four hours, and after forty-eight hours you can see distinctly marked, at the bottom of the incisions, the gradually expanding lung. I have seen enough cases to justify the recommendation that, before large portions of the thoracic wall are excised in chronic empyema, incision of the visceral pleura should first be tried. Experience in the operating room also convinces me of the great value of curetting the visceral pleura, which is bound down in the cul-de-sac, formed by the juncture of the ribs, the spinal column and the thoracic pleura, and no possibility for the lung to expand at the time a portion of one or more ribs is excised.

Let me also recall attention to an anatomic point, not often mentioned in the text-books or in the monographs treating of purulent effusions. The older authors referred to spontaneous perforations of an empyema on to the surface of the chest or "empyema necessitatis," so-called; more frequently, no doubt, because they saw more cases which, unrecognized by the attendant, nature endeavored to cure by furnishing an avenue of escape for the pus.

The site at which the "pointing" of the pleural abscess usually occurs has been very accurately described by John Marshall in his "Lecture of Diseases of the Chest Cavity Requiring Surgical Treatment," which was published in the *Lancet*, March 4th, 1882. The following description and illustration are taken from it:

"At the fifth interspace, the arrangement, in ordinary cases of the adjacent muscles is as follows: The external intercostal muscle terminates, as usual, near the costal cartilages, to the outer side of the *spot* in question, at and beyond which, towards the sternum, only a thin fascia covers the internal intercostal muscle; the lesser pectoral which ascends from the fifth rib, is, of course, altogether above the fifth space; the outer border of the rectus muscle of the abdomen passes up to the fifth cartilage, and limits the spot on its inner side; superficially to these parts the thick bundle of the great pectoral, which springs from the sixth cartilage, crosses above this spot, although a few thin

fibres which arise from the sixth rib, and other which blend with the external oblique muscle of the abdomen or with the sheath of the rectus, may pass over it; or the slender upper fasciculus of the oblique muscle itself may cover it. Here, in fact, is a part of the chest wall, below the fifth rib and beneath the nipple relatively unprotected by the adjacent muscles. The internal intercostal muscle, the thin intercostal fascia and the weakest portions of the great pectoral and the external oblique, together with the common fascia, are, beside the skin, the only coverings of the pleural sac in this situation. It is a very

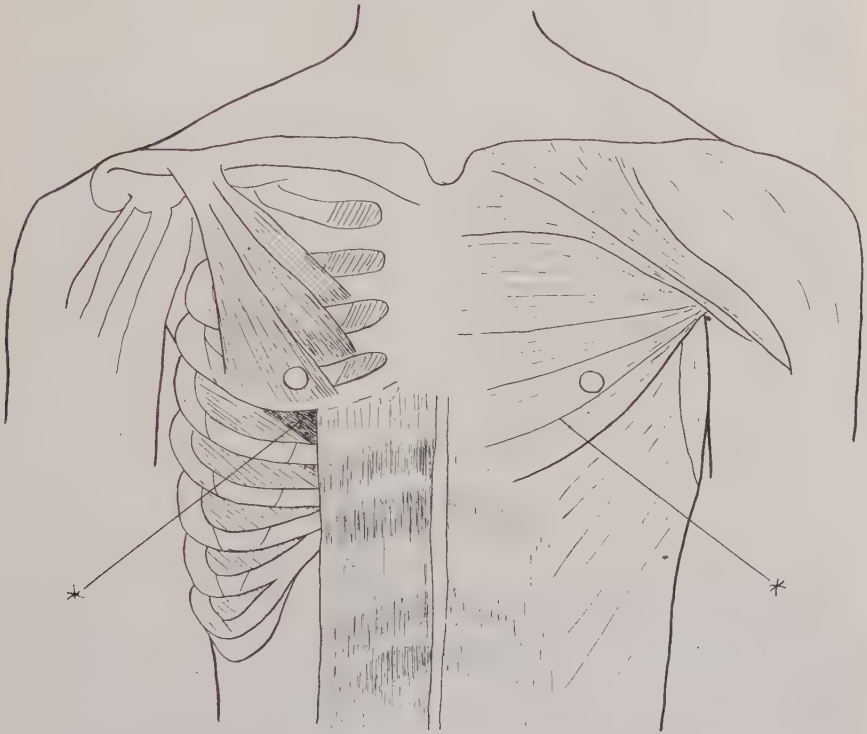


FIG. 4. This diagram shows the weak spot (*) in the chest wall; on the one side with the deep muscles bounding it, and on the other side covered by the superficial layer.

weak part of the pleural boundary, and this is a valid reason why special bulging and spontaneous perforation should occur preferentially in this region—that is, in the infra-mammillary line in the fifth interspace. It may also be remarked that this spot corresponds nearly with the middle of the pleural cavity when that is much distended.

An empyema may be regarded as a great pleural abscess, and, as we know, abscesses often point opposite their center. It is further true that the fifth intercostal space is wider than those below it, and its limiting ribs being held to the sternum give firmness to its borders, conditions which may help the thinness of the chest wall here in determining the place of perforation. The spaces above are still wider and equally well supported by the ribs, and there is an inter-fascicular part of the great pectoral over the second space which is exceptionally thin, and it is here that perforation is said often to take place in children."

It may not be uninteresting to mention the first recorded case in which an operation was performed in this country, for the cure of an empyema. I quote from the proceedings of the Massachusetts Medical Society*:

"In May, 1756, James Monro, an apprentice to a blacksmith, in Cambridge, was seized with a pleuro-peripneumony. The third day of the disease I saw him, bled him that and the next day, and with the usual treatment, the complaints partially terminated the seventh, by expectoration. I saw him occasionally from time to time, until the 8th of June. He then went to his parents at Lexington, and continued there about fourteen days, in which time he grew much worse. June 27th, late in the evening, I was desired to visit him, and was informed that two days before, when his brother was helping him from his horse, something had broken within him, but had no discharge by the mouth; I was much surprised to find his thorax so largely distended, and attended with vast difficulty of respiration, which threatened suffocation; upon pressure from side to side, or from the back to the breast, there was an evident fluctuation of a great quantity of fluid, and no expectoration. I proposed, as the only method of relief (the operation for the empyema) which I could suggest. He was very averse to it; but after a little reflection, as he was conscious that he was in extreme danger, he consented. Being called so late in the evening, and not being provided for the operation, as I was then three miles from home, deferred it until the next morning. I saw him early, and nothing having occurred to prohibit the evacuation of the fluid, I made an opening of three-quarters of an inch, at the usual place on the left side, as his complaints had been most severe there (no one part being more prominent than the other), and discharged about five pints of thick pus. As he began to faint, I stopped the orifice, and secured the dressings with proper bandages. On the second morning the discharge was about the same quantity; on the third morning about two quarts, and at each time flowed with great violence. On the fourth morning I found him very faint; a great quantity of pus had been discharged; had wet through the feather and straw bed, and near a quart of pus ran on the floor. Upon removing the dressings, I was much surprised to find a part of the lungs (as big as a nutmeg) protruding through the orifice in the side, in a mortified state; and as in desperate cases, doubtful and bold methods may be pursued, I extracted the part of the lungs, until I discovered the termination of the diseased part, and cut it off close to the uninfected part, and then replaced it in the thorax, and secured the dressings in such a manner, as to prevent the like accident again. On the fifth day from the opening his side, he received the fumes of pulv. G. thuris, mastich. myrr et oliban. through an inverted funnel into his lungs by his mouth, and in nine days the fumes passed through his lungs and came out at the orifice in his side; during which time he took no medicine but a decoction of cort. peruv. The abscess and the external opening healed in sixteen days, and he recovered his usual state of health. In the month of October following, he went as a soldier to garrison Fort Cumberland, in Nova Scotia; was there eighteen months; returned in good health, and has followed his business of a blacksmith ever since. He is subject to the asthma, but it is a family disorder."

*A case of empyema, successfully treated by the operation. Communicated by Isaac Rand, Esq., Vice-President of the Massachusetts Medical Society, and Physician at Cambridge, May, 1783.

A CASE OF OSTEITIS DEFORMANS (PAGET'S DISEASE.)*

By WALTER R. HEWITT, M. D., of St. Louis.

The patient, a negro male, laborer, aged 60 years, widower, stated that he had had typhoid fever, rheumatism and scrofula, but denied venereal disease.

The family history was negative.

Present trouble: Two years ago both legs began to swell; the right one steadily, though slowly increasing in size, and painful at the onset of the disease. The patient entered the hospital complaining of dull, aching pain, which had begun, four days ago, in the right ankle, and had involved the leg, but not the knee-joint. He had had a severe cough in the spring.

The general nutrition was fairly good. The head was held somewhat forwards and the chin dropped downwards toward the sternum. The left clavicle was considerably, the right clavicle slightly, enlarged. The right ulna was enlarged, and the right leg, from ankle to knee, was twice the size of the left leg. The patient had a high arched palate.

The chest expansion was 1.5 c.m. The tactile fremitus and vocal resonance were slightly increased, over base of the left lung and over both apices. Auscultation showed few subcrepitant rales over the apices and over the base of the left lung.

The heart was normal, except that the second pulmonic sound was accentuated. The apex beat was not visible. The arteries were markedly sclerotic. The pulse was of good volume, regular, seventy-two per minute. The digestive and genito-urinary apparatus were normal. The scrotum showed a large tympanitic mass, which was translucent and gave an impulse on coughing. Boborygmi were heard over this mass on auscultation. The joints were not involved, and examination of the nervous system was negative.

Skiagraphs showed a rarefying osteitis.

The term, "osteitis deformans," was first introduced by Czerny, in 1873, for a group of cases, which were afterwards shown to be cases of osteo-malacia. Paget's original article appeared in 1876, but it was one year later that he gave us our first clear, clinical picture. It is thought that there are sixty-seven genuine cases reported in the literature, this one making the sixty-eighth.

The etiology of the disease is unknown.

The disease begins as a chronic rarefying osteitis, in which the normal compact tissue becomes finely porous; fresh bone is formed beneath the

*Read before the Society of City Hospital Alumni, Oct. 19, 1908.

periosteum, and finally, in the later stages of the disease, undergoes hypertrophy and partial sclerotic changes. These two conditions, osteoporosis, and osteo-sclerosis, exert considerable influence in bringing about the deformity of the long bones, although we must not forget the effect of gravity and weight on the already weakened bones. As a rule, there is no joint involvement. Well marked arterio-sclerosis is usually present.



SKIAGRAPHS.

Joncheray distinguishes two varieties of the disease, one painless and the other painful. The contour of the patient is changed and he exhibits a peculiar mode of locomotion. He is decreased in stature, the head is advanced and lowered, so that the chin is below the top of the sternum. The chest becomes contracted, narrow, flattened laterally and deep from

before backwards. The arms appear unnaturally long; the skull is increased considerably in thickness for which reason the patient states that his hat is too small for him, and that he has been compelled to buy one a size larger. The shafts of both tibiae and femora are bent so that the patient becomes bow-legged. The tibia or femur may be bent anteriorly or laterally, and the vertebral column presents abnormal curvatures. If the bones of the arm and chest are involved, the patient may be round-shouldered. Often these patients present a dwarfed appearance. The above description is of a well-advanced case of osteitis deformans. The bones most frequently involved are, in order of frequency, the tibiae, femora, vault of the skull, clavicles, spine, ribs and radii.

Elting states that the disease occurs most frequently in the tibia, which may be the only bone involved. The bones of the cranium may not be involved at all, especially in the early stages of the disease. The vertex of the skull is more often involved than the base. Careful blood examination, in some cases, has been negative.

The diagnosis in a typical, well-advanced case is easy. In the early stages of the disease a skiagraph is essential to clear up the diagnosis.

The disease is a chronic one, which assumes a slow, but progressive course. This may extend over a period of from five to fifteen years, the patient dying from an intercurrent disease.

Elting states that treatment must be purely symptomatic. Bowlby states that in some instances improvement has followed the use of potassium iodid and of thyroid extract, and believes that these drugs deserve a further trial.

I wish to take this opportunity of expressing to Dr. W. C. G. Kirchner, Superintendent of the City Hospital, my thanks for the interest shown in the preparation of this report.

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MEDICAL AND SURGICAL PROGRESS.

INCREASED INTRACRANIAL TENSION AND ITS RELIEF BY DECOMPRESSION.

A REVIEW OF RECENT LITERATURE.

By MALVERN B. CLOPTON, M. D.

1. A FURTHER CONTRIBUTION TO PALLIATIVE OPERATIONS FOR BRAIN TUMOR.—Spiller (*J. A. M. A.*, January 23, 1909).
2. PRINCIPLES OF CEREBRAL SURGERY.—Cushing (*J. A. M. A.*, January 16, 1909).
3. OBSERVATIONS ON EXPERIMENTALLY INDUCED CHOKED DISC.—Cushing and Bordley (*Bulletin of Johns Hopkins Hospital*, April, 1909).
4. OBSERVATION ON CHOKED DISC, WITH SPECIAL REFERENCE TO DECOMPRESSIVE CRANIAL OPERATIONS.—Bordley and Cushing (*J. A. M. A.*, January 30, 1909).
5. A METHOD OF COMBINING EXPLORATION AND DECOMPRESSION FOR CEREBRAL TUMORS WHICH PROVE TO BE INOPERABLE.—Cushing (*Surg., Gyn. & Obst.*, July, 1909).
6. PROBLEMS AND PROCEDURES IN CRANIAL SURGERY.—Frazier (*J. A. M. A.*, June 5, 1909).

There has been recently, most particularly in the literature in America, much discussion of certain procedures in brain surgery that mark the advances in this field. Decompression measures conducted primarily for the purpose of relieving tension in unlocalizable tumors, and not for exploratory purposes, were planned some time back, but the discussion has been continued by Cushing, and he concisely states that no brain tumor is more favorable for prompt operation of this sort than one which gives no clinical indications of its situation. Many of these cases remained free from pressure symptoms, and have returned after periods varying from one to three years with an onset of symptoms pointing at last toward the situation of the lesion, which in a number of instances has been successfully removed. He lays stress on the following points: That a muscle splitting incision in the temporal region exposes the thinnest and most easily removed area of the cranial vault; that it is over a "silent" area; that an undue protrusion is obviated by the protection of the resutured muscle and fascia; and that except in case a growth is so placed as to produce an internal hydrocephalus, usually a considerable, often a complete, subsidence of symptoms may occur. In a later report the same author has advised the use of an osteoplastic flap which later can be converted into a decompressive operation by the removal of a part of the flap situated beneath the temporal muscle. This method is useful in cases where the tumor is known to be located in a hemisphere, but when

approached it is found not to be removable. To remove the whole bone flap would result in too extensive a hernia or possibly a fungus cerebri should the scalp wound part.

Spiller, in a consideration of palliative operations in cases where a choked disc is the only sign of intracranial disease, quotes De Schweinitz to the effect that there is no marked change in the swollen nerve head after decompression until the tenth to the fourteenth day, two months being necessary for its complete disappearance, the edema of engorgement not subsiding usually under forty-eight hours, the retinal vessels diminishing, in congestion usually within thirty-six hours. His experience has been that an operation may give temporary improvement in vision where a choked disc with neuritis is present, but later there was a postneuritic atrophy.

As he believes that a choked disc may be of toxic origin, there is doubt in his mind whether it is well to advise a decompression when choked discs are the only sign of intracranial disease, but if decompression is practiced it should be done early before permanent nerve changes. He is not satisfied that palliative operations would be of any benefit in brain tumor cases that have fallen suddenly into coma.

Frazier gives the operation of decompression a wide application, and does not restrict it only to tumors, but includes, among the indications, epilepsy, chronic meningitis, with or without hydrocephalus and trauma. With tumors we should not be content with purposeful palliation unless the tumor cannot be localized or removed, and an exploratory operation is advised, which can be later made a decompression by removal of part of the bone flap should the tumor not be found. This operation should be done early. He questions the propriety of resorting to decompression in advanced cases in deep stupor, but it is occasionally followed by great benefit. Palliative operations may, in some instances, be followed by severe aggravation of the symptoms, due to hemorrhage into the brain after a sudden relief of the support to which the vessels are accustomed.

Bordley and Cushing, summarizing their views in choked disc, state that early injection, with stasis of the vessels, the marked edema with projection of the papilla, and the ultimate round-celled infiltration with new tissue formation that leads to autopsy, are merely stages of the same process; that is, the process is mechanical, and not toxic. It is due primarily to the crowding into and distention of the sheath of Schwalbe by obstructive cerebrospinal fluid resulting in an edema of the nerve end. They believe that an acute internal hydrocephalus in the closed adult skull almost inevitably leads to a choked disc, but they attribute this to the presence of arachnoid fluid forced into the optic sheath, rather than an edema spreading from the brain to the optic nerve. Furthermore, choked disc is often present with tumors which have not led to hydrocephalus, and is usually absent in the essential hydrocephalus of infancy. A small, slow-growing tumor so situated as to cause hydrocephalus, can lead to a high grade choked disc, whereas a malignant rapidly growing glioma, which causes little pressure, due to the way it infiltrates the brain, may produce no change whatever, even though situated near the optic nerve. Toxic products in the cerebrospinal fluid can hardly be held responsible for any grade of choked disc. Cases have been observed where cella turica tumors have led to optic atrophy without producing choked disc, because fluid was not crowded into the sheath of the nerve. In meningitis, they believe that choked disc is rare, and equally so in abscess unless there is internal hydrocephalus. Further,

the disc is choked frequently after cranial fractures, apoplexies, and not uncommonly after simple operations, when infection can be safely ruled out. Since there is an almost uniform subsidence of a choked disc after a decompressive operation, whether conducted for pressure of tumor, cerebral edemas of any sort (traumatic, nephritic, or vascular) a mechanical rather than a toxic process must play the chief role in the causation of this well-recognized lesion.

Bordley and Cushing, in reporting the results of their experiments on artificial production of choked disc, state that the introduction of fluid under tension into the intracranial subdural space will produce a choked disc that can be observed during life and studied in the tissues after death, and that the same condition can be produced by digital pressure upon the dura beneath a bone defect. They found that these edemas of the nerve-head and retina are associated, under both conditions, with distension of the optic sheath, particularly of the subarachnoid spaces, and that the venous congestion does not seem capable, without concomitant action of fluid under tension in the optic sheath, of producing more than the congestive features of choked disc. Long continued pressure against a dural defect can lead to retinal hemorrhages, and other clinical as well as histological features which characterize chronic choked disc in man. Introducing, between the skull and dura, foreign bodies which are capable of subsequent increase in size, and which possess some elasticity, will closely simulate the action of a new growth, and, placed either above or below the tentorium, will lead to the production of choked disc. They conclude that choked disc is dependent on the pressure of fluid under tension in the subarachnoid space, and that cerebral decompression often allows the process to subside, owing to the resultant diminution of the tension from release of the confined fluid, and that the experimental work corroborates many of the more recent clinical observations in showing that a choked disc, even of a considerable height, may be rapid in its formation, and, provided it has not gone on to the stage of new tissue formation, may rapidly subside, thus speaking strongly in favor of the mechanical as opposed to the chemical or inflammatory origin of the lesion.

Cushing has put the decompression operation to use in a class of cases that have heretofore been considered hopeless, namely, basal fractures with hemorrhage, where he claims that the relief of tension and the drainage of the hemorrhage will give much better results, particularly in those cases without severe laceration of the brain. Frazier, in discussing the indication for operation in cerebral trauma, states emphatically that repeated observations on the human subject in such cases of the blood pressure have given almost invariably negative results; while exceptionally the blood pressure may be elevated, in the majority it is not, even though the symptoms indicate a very serious intracranial injury and the operation weals tremendous intracranial tension. The elevation of blood pressure, so frequently observed in the experimental laboratory, when the cranial contents are mechanically encroached on, is not present under corresponding physical condition in man. Therefore, as a guide to operative intervention, blood pressure observations with our present instruments are practically worthless. He also states that papilloedema, or choked disc, as a manifestation of intracranial tension, the result of trauma, is the exception, not the rule, only two cases of choked disc having been observed in the past two years; therefore, the eye symptoms are not to be considered of any great moment as a diagnostic guide to treatment. In referring to the decompres-

sion operation for the relief of serious contusion of the brain, he is convinced that there is a certain field for its employment, but he disagrees with those that state it should be used in all cases of basal fractures where the symptoms are due to intracranial pressure. Cushing stated that the mortality of basal fractures was 87 per cent., but Frazier found his records show only 59 per cent. He believes that this record could be improved by operating on selected cases. He groups the injured into these classes: (1) Those in which the damage to the brain has been so great that under decompression or not the patient dies. (2) Those in which the symptoms at no time appear serious enough to threaten life, the symptoms persisting for several days show signs of abatement and the patient recovers. (3) Those in which the patient's condition, though not desperate from the first, becomes progressively more serious; unconsciousness deepens, relaxation takes the place of restlessness, respirations become stertorous and Cheyne-Stokes in type, and the pulse slower, both respiratory and circulatory breaks. In this last group of cases he thinks operation ought to be undertaken, and only in this class of cases.

SERUM-THERAPY IN OPHTHALMOLOGY.

A REVIEW OF RECENT LITERATURE.

By JOHN GREEN, JR., M. D.

SERUM-THERAPY IN OPHTHALMOLOGY.—Axenfeld (*The Ophthalmic Review*, January, February, March, 1909).

Axenfeld affirms that, in view of the fact that this new branch of therapeutics has often failed to realize oversanguine expectations, and hence has given rise in some quarters to an exaggerated scepticism, it is proper, from time to time, to take stock of what is already firmly established, in contradistinction to all doubtful hypotheses.

This paper discusses the therapeutic means that modern researches on immunity have placed in the hands of the ophthalmologist, the successes obtained, the rules for dealing with different diseases and the future prospects of the therapy.

The vascular structures of the globe and adnexa will, in future, take part in serum therapeutics as do the other vascular organs. In obstinate blepharitis and formation of hordeola, the subcutaneous application of staphylococcus vaccine will doubtless prove useful, as will the Sobernheim serum in the rarely occurring cases of anthrax.

The conditions are quite unique in the non-vascular refracting media in which bacteria grow with extraordinary ease. Loeffler first pointed out that normal cornea shares in general bacterial immunity, Roemer proved it with regard to pneumococci, and Ehrlich and Roemer in regard to autotoxic immunity to the toxin of diphtheria.

Roemer, Wessely and others have proved that into the normal aqueous humour antitoxins, agglutinins and precipitins pass from the blood, while bactericidal substances (opsonins, hæmolyins and cytotoxins), do not do so at all. Only after puncture or irritation, by means of subconjunctival injections, by heating and especially under the influence of inflammation, is the entrance of these substances to be observed.

Under normal circumstances the vitreous does not share in any kind of immunity whatever. It only begins to show traces of immunity bodies after frequently repeated paracentesis or subconjunctival injections, or during inflammation.

It is upon these facts that Roemer's law of the "Retention of Cytotoxins" is based, and hence an antebacterial serum therapy must experience great difficulties when the infection has extended to the media. It should be borne in mind that the possibility of increasing the intraocular immunizing processes, together with the increased influx from the altered vessels into the media, justifies the employment of serum therapy in corneal and intraocular infection, rather, however, as an adjunct to other treatment than as a main reliance.

Antitoxic serum-therapy. Loeffler's antidiphtheritic serum is curative in diphtheritic conjunctivitis as in diphtheritic membranes elsewhere. Failures with the serum are due either to delay in its use or the presence of a mixed infection. Likewise an incident corneal infection may be

due to the invasion of pyogenic germs, and hence will not be directly influenced by the antidiphtheric serum. Nevertheless the improvement of nutrition by the diminution of conjunctival inflammation and of the paralyzing action of the toxin may be of value for the cornea. The influence of antidiphtheric serum in the prevention and cure of post-diphtheritic paralysis is still *sub-judice*. Axenfeld believes that the relative frequency of post-diphtheritic paralysis varies enormously and hence it is difficult to estimate precisely the value of any treatment.

Tetanus serum finds its therapeutic field in the rare cases of tetanus following injury to the eye or its surroundings, although if tetanus has already set in the success of serum-therapy is dubious. The prophylactic action of tetanus antitoxin is unquestioned, and it should be the rule to use the serum in eye injuries which are contaminated with earth, manure, street mud, and especially those wounds caused by splinters of wood contaminated by mud, or by the lashes of whips. Following Kocher's dictum, it is proper to inject the antitoxin in all suspicious injuries.

In hay fever conjunctivitis, Dunbar's Pollantin may be applied in powder or drops to the conjunctiva and the nasal mucous membrane. An "anti-kenotoxin" prepared by Weichart and known as "Graminol," is also useful. Axenfeld believes that both preparations are good in some cases, but not in all, and when they do act the result is often not lasting.

To autotoxic serum-therapeutics belongs also the application of Roemer's Jequiritol serum. Should the reaction following the stronger Jequiritol be too great, the instillation of the antiabrin serum will reduce the threatening symptoms. The efficacy of the serum after the reaction sets in is to be explained on the ground that the toxalbumose becomes only gradually bound and that the serum can reattract to itself even the anchored toxin. Axenfeld suggests that more might be achieved in the avoidance of corneal complications by the subcutaneous use of the serum, and that prophylactic injection of serum into the tear sac might effectively prevent that other dreaded complication—dacriocystitis.

Much greater theoretical and practical difficulties are offered by bactericidal serum therapy, which is directed against those bacteria which do not produce free toxin capable of being bound by an antitoxin serum in a simple chemical way.

The pneumococcus serum of Roemer and Merck does not fulfill the therapeutic requirements necessary for the treatment of *ulcus serpens*. It does possess curative properties and may be used exclusively in benign cases in which conservative methods are justifiable; in severe cases it may be used as an adjuvant to surgical treatment. Roemer has recently suggested a serum prepared by the use of pneumococci of high virulence for animals. Active immunization by the subcutaneous injection of dead cultures of pneumococci has not proved sufficiently efficacious. Better results might be obtained if we could use a vaccine prepared from the pneumococcus taken from the *ulcus serpens*. But before such a vaccine would be ready, the destruction of the cornea might have increased dangerously.

In streptococcal diphtheria of the conjunctiva, hematogenous inflammations of the eyeball of a metastatic character, and possibly in cases of acute rheumatic iritis, streptococcal serum or vaccine is to be considered as an adjuvant to other methods.

Of staphylococcus serum therapy and its influence on the eye we know very little up to the present.

If prophylactic serum-therapy is indicated in operations on the eyeball, it will best be carried out by active immunization with vaccine

from microorganisms which have been cultivated from the eye of the patient himself. In cases in which it is impossible to prepare vaccines from the patient himself, a standard vaccine or immunization-serum, as obtained from serum institutes, is to be used.

The subconjunctival injection of vaccines is irrational. Before it can produce any healing effect a vaccine must first reach the organs which produce the antibodies (spleen, marrow, etc.) whilst on the other hand, in the subconjunctival tissue no considerable production of antibodies can take place.

In the treatment of acute purulent wound inflammations we have less to expect from vaccine immunization, because the formation of antibodies occupies too much time. However, the subcutaneous injection of small doses of dead culture of staphylococci often produces a rise in the opsonic index even by the next day. But in this type of inflammation the passive immunization with an efficient "immunization serum" is the best. In some cases where it is impossible to determine the precise character of the infecting organism (as in intraocular infections) it may be advisable to use a combination of two or more serum therapies.

It is questionable whether a gonococcal vaccine is at all efficacious in acute gonorrhœal conjunctivitis, but it does appear to have a certain value in metastatic gonorrhœal eye diseases.

Roemer's proposal to inject hemolytic serum into the body for the purpose of producing solution and more rapid reabsorption of hemorrhages of the vitreous, has not led to any definite results, and is, moreover, not devoid of danger to the integrity of the eye.

With regard to the use of tuberculin, and its dosage, Axenfeld is inclined to follow the technique of v. Hippel, in opposition to the dicta of Wright. The latter has pointed out that the opsonic index may be brought to and maintained at the highest possible degree by much smaller doses than those recommended by v. Hippel. It must be determined whether the opsonic index can be accepted as the sole measure of this treatment and of its results. The opsonic result is only one of the effects of immunity and not the sole one. It will be necessary to treat cases of eye tuberculosis with varying doses under continuous observation of the opsonic index and the clinical course.

Of infections which are exclusively pathogenic for the eye, sympathetic ophthalmia is first considered. The prevailing opinion that this disease is a metastatic infection conveyed by the blood circulation, has led zur Nedden to inject the blood serum of patients suffering from sympathetic ophthalmia into other patients showing the beginnings of the disease.

In some cases a considerable improvement was manifested. The prospects of this serum-therapy seems *a priori* to be not very good. As the eyes only react to the germs of sympathetic ophthalmia, it is not probable that these germs have any considerable influence on organs which produce antibodies. For the same reason a vaccine therapy seems to promise very little.

Except for scientific interest, it is not worth while to make trials of vaccine therapy in diplobacillary infection because we already possess an excellent remedy in the local application of salts of zinc.

Non-specific serum-therapy. The partisans of non-specific serum-therapy do not deny the specific nature of antitoxin and of the other specific antibodies, but believe that the serum which has been prepared by a certain toxin or a certain bacterium, or with yeast, contains, in addition, still other active qualities. According to Darier, who, with

Deutschmann, is the especial champion of non-specific serum-therapy, the injection of such strong toxins as the diphtheretic or tetanus toxin excites all organs to the production of antibodies of all kinds, and this makes the serum effective in all kinds of infections. Axenfeld criticizes Darier's work on the ground that absolutely no experiments on animals' eyes have been carried out to test and control his observations made on man. To supply this hiatus, Drs. Happe and v. Szily, in Axenfeld's laboratory, carried out a series of experiments. Rabbits, previously immunized and also treated daily with relatively large doses of Behring's or Roux's serum, received accurately measured minute quantities of dilute vibration culture of staphylococci or pneumococci, injected with a fine canula into the vitreous, anterior chamber or the cornea. A control rabbit was always infected in exactly the same manner. The experiments were entirely negative, as the animals treated showed the same symptoms as the untreated. For instance, treated animals injected in the vitreous with pneumococci, not only developed panophthalmitis, but even died in a few days, exactly as did the control animals. In other words the serum did not exhibit any influence against either local or general infection.

With Deutschmann's serum, which is prepared from horses that have been fed on yeast, the workers in Axenfeld's laboratory have obtained negative results. The results obtained indicated that neither infections of the vitreous, nor those of the anterior chamber, nor of the cornea, showed any appreciable effect as the result of the yeast treatment on either the severity or the course of the disease. These results are diametrically opposed to Deutschmann's claims of favorable results after use of the yeast and serum in rabbits, into whose anterior chambers had been injected staphylococci, streptococci, pneumococci or tubercle bacilli.

Axenfeld concludes as follows: "So far as it is possible we shall still have in the future to determine the species of germs in all infectious cases in which serum treatment is to be used, in order to use that kind of serum or vaccine which corresponds best to the special etiology. That must be demanded also for this reason, that only in this way can we supplement our knowledge of the important question, as to how far the different kinds of bacteria are influenced by different methods of serum therapy. Even if the non-specific serum-therapy should fulfill all the promises made in its name, nevertheless the determination of the germ, so far as possible, would remain indispensable."

TRANSACTIONS OF THE GERMAN ORTHOPEDIC CONGRESS.

BERLIN, APRIL, 12TH AND 13TH, 1909.

Reported by M. Froelich, *Revue D'Orthopédie*, July, 1909.

By NATHANIEL ALLISON, M. D.

The Eighth Congress of the German Orthopedic Society was held in Berlin on the 12th and 13th of April, 1909. Professor Lange, of Munich, moved that the order of the day be the discussion of Congenital Hip Dislocations, and there were eleven papers by different authors read on this subject. Four of these papers were illustrated by radiographs, which were presented in the evening at the "Langenbeck Haus."

Drehman (Breslau) made a study of the relationship between the neck of the femur and the diaphysis of the same in the condition which one designates antiversion of the femoral head. This antiversion is not due, as one might think, to a vicious insertion of the neck on the diaphysis, but is due to a torsion of the diaphysis itself at the level of its superior third. This antiversion, which is called antitortion, is usually not very marked and has little practical importance unless it is very marked where it might oppose the retention of the femoral head, after reduction, and occasion a relaxation forward and above.

Reiner (Vienna) has recommended for these cases an osteotomy, or, better still, a preliminary osteoclasia of the femur at its inferior third. After this division of the bone, the lower part of the limb is placed in external rotation, in such a manner that the plane of the condyles is in the same plane with that of the femoral neck and head. After this fracture has united, then a reduction of the dislocation should be made by the Lorenz method. Most of the speakers thought that this preliminary intervention was very rarely indicated, and that most often the antitortion would correct itself spontaneously. Lorenz alone affirmed that where the antitortion was pronounced (90 degrees) the osteoclasia recommended by Reiner was the thing to do.

Spitzzy (Graz) has examined children not yet operated upon for the existence of coxa vera, and confirmed the observation of Froelich that congenital luxation in young infants is rarely accompanied by coxa vera. It appears more frequently in older cases. The cause of this lesion is a congenital weakness of the head and neck, exaggerated by the pull of muscles and by the functional overburdening.

Froelich (Nancy) has studied coxa vera which follows reduction of congenital dislocations. It shows itself in the statistics as follows: 12 cases in 120 (Horwarth), 4 cases in 150 (Joachimsthal), 6 cases in 380 (Froelich), 2 cases in 500 (Redard). Of these there are many causes; one is the separation of the epiphysis at the reduction, another is a separation or a fracture of the neck during the manipulations and mobilization in the after-treatment. The most frequent cause, perhaps, is a gradual development of the condition, due to the functional overburdening when the child commences to walk. Perhaps there is a rare-

faction of the bone, as in rickets. The symptoms of coxa vera are sometimes not noticed, sometimes pain in walking accompanied by a limp. If this limp persists it may not always be due to a coxa vera, but may be caused by the reabsorption of the cavity and by a true laxity of the articulation.

Stieda (Koenigsburg) demonstrated the fact that the existence of a true coxa valga in dislocated hips is not at all certain in spite of the theory of Drehmann, to the effect that the abnormal position of the neck tends to produce this condition. He believes it to be infrequent.

Rosenfeld (Nürnberg) suggested a uniform conformity of terms in describing position of the head and neck, and advised the use of the equatorial and meridian planes. When the subject is lying on the back, the lower extremities make an angle of 180 degrees. When the subject is standing up with the limbs flexed the angle is 90 degrees. As the limb approaches the axillary region, the angle diminishes from 90 to 0. These same angles can be measured in a horizontal or equatorial plane. In order to establish internal rotation, it is necessary to imagine a triangular plane which passes through the two condyles of the femur and has its summit at the hip articulation. Internal and external rotation are shown by the degree of angulation which this plane makes with the horizontal or equatorial planes. If one imagine a terrestrial globe with its centre at the hip articulation, the idea of the author is easily comprehended.

Koehler (Wiesbaden) exhibited a series of radiographs which illustrated the normal cotyloid cavity and confirms the assertions of Reiner and Werendorf in their communication on the same subject last year.

Lorenz (Vienna) went through the technic of reduction of congenital dislocation of the hip. It is often necessary to combine traction below the knee, with pressure under the great trochanter, in order to place the head in the cavity. The first plaster dressing confines the limb in 90 degrees flexion, the second dressing places the limb in internal rotation with the knee flexed at a right angle, which is the only way to secure internal rotation. If there is a great antitortion of the femur it is necessary to place the limb in axillary flexion. If the limb can not be placed in the second position, Lorenz puts the child in an apparatus in which it lies with the two limbs in flexion and abduction, where they are confined by straps, and little by little the abduction and extension increased. This is done for several hours every day.

Joachimsthal (Berlin) thinks that the retention of the head is often favored by osseous proliferations, which appear very quickly after reduction around the border of the acetabulum. He exhibited two anatomic preparations; one of an infant who died after four months, and one who died after six months, following reduction to confirm this point of view.

Lange (Munich) does not believe that this proliferation of bone is useful in retaining the head until after a year has passed. He believes that the ligaments and the capsule are the principal structures which aid in the retention of the head, and that, therefore, the limb should be placed in a position to make use of these structures, namely, in internal rotation.

Gocht (Halle) also believes that the head should be retained by the retraction of the joint capsule and that the posterior portion of the capsule should be encouraged to contract by keeping the limb in the first position; that is, the position of abduction and flexion of 90 degrees.

Ludloff (Breslau) stated that he wished to obtain the results of treatment of congenital hip dislocation in order to establish a scientific

statistical report of all the cases operated upon before 1907. He wished to have the presence of Trendelenburg sign noted, and also the age at which operation was done, as well as a copy of the radiographs of the case.

Bade (Hanover) has studied the cases of sciatic paralysis and crural paralysis that have followed operative reductions, and found that the percentage was 2.1, principally produced by the abduction movement, whereby the head of the femur presses or injures the sciatic nerve. A less frequent cause is extension. These paralyses usually disappear after some weeks or months. The method to pursue when paralysis is established after an operation is, after the reduction has been obtained, to keep the child in plaster, being careful that there is no compression or traction on the nerves. If the reduction has not been obtained the plaster should be removed and all pressure or traction on the nerve should be carefully avoided.

Becher (Münster) made a report of the treatment of congenital dislocation by the bloodless method on older patients, and stated that complete cures were exceptional. Always in their results there is a certain amount of stiffness. Reiner has made a study of the open operation results in the old cases of Lorenz. He found 40 per cent. good results. He believes that it is well to make an open operation when the reduction is not possible by the method of Lorenz. He does not believe that there should be an exact age limit set, and that one should proceed after the method recommended by Ludloff, which is to proceed as in the bloodless method, placing the limb in abduction and flexion. Then, after several days, when the hip no longer shows signs of inflammatory process, the joint should be opened and the head of the femur firmly placed in the acetabular cavity. This method will overcome many difficulties which have been heretofore encountered in treating cases beyond the age limit.

Deutschlander (Hamburg) showed three cases operated upon by the open method; one by the procedure of Hoffa, one by the procedure of Ludloff, and the third by a modification of Ludloff's procedure. The results were very satisfactory. The cases had been under treatment for four years.

CORRESPONDENCE.

PARIS LETTER.

By AUGUSTE A. HOUSQUAINS, M. D.

CANTHARIDES IN THE TREATMENT OF EPITHELIAL NEPHRITIS.

Recurring to the idea he had developed some fifteen years ago, Professor Lancereaux, of the Academy of Medicine, has published the good results that he has obtained in the treatment of rebellious epithelial nephritis by the administration of the tincture of cantharides. This medication, it must be admitted, is paradoxical, since it cannot be denied that cantharides, when administered internally, is often the exciting cause of nephritis itself. M. Lancereaux replies to his detractors with the remark that the fact of a drug producing untoward effects in the kidneys is really a matter of no weight, since it cannot be gainsaid that when a drug does not affect an organ, it remains absolutely inefficacious. In truth, the facts published by M. Lancereaux give rise to the thought that this treatment, followed methodically, merits extensive trial.

All cases of nephritis do not comport themselves in the same manner when tincture of cantharides is employed. In fact, we ought to reserve this medication for those cases in which the disease, being localized in the epithelia of the uriniferous tubules, complete anuria obtains. What is in reality the mechanism of this anuria? We know that the microscope shows us that the tubules are obstructed by the altered and tumefied epithelia. Therefore, it is rational to combat an anuria, thus produced, by a drug capable of exercising an action on the epithelia. If cantharides in certain doses has the quality of destroying renal epithelia, why should it not in a smaller dose modify the epithelia? The clinical facts show that whatever may be the theoretical interpretation of the mode of action of cantharides, this medicament possesses, in certain conditions, a remarkably therapeutic action in epithelial nephritis with anuria. Of the cases reported by M. Lancereaux we will cite one of the most typical. A girl, aged eight years, well-developed, came to him July 7, 1908. She was convalescing from scarlatina. She was pale and presented on her legs and abdomen a desquamation; was uncomplaining and apathetic; had a disgust for food and vomited the milk and the broths shortly after ingestion. The axillary temperature was 36.6 C., and none of the other organs was affected but the kidneys. The urine, acid and scanty (150 grams in twenty-four hours), specific gravity 1.025, showed an abundant and flocculent albuminous deposit. The microscope revealed hermatin in large quantities, leucocytes, altered tubular epithelia, hyaline and granular casts. The urine, examined repeatedly before the advent of the scarlatina, was found to be normal; therefore it was but right to say that here was a scarlatinal nephritis.

The patient was put at once on an exclusive milk diet and on diuretics, such as theobromin, lactose and digitalis; but her condition remained unaltered, the quantity of the urine continuing to oscillate between 50 and 250 cubic centimeters in twenty-four hours. Constipation was present, and from time to time there was vomiting. The pallor of the face increased, the lids became edematous, and there were slight edema of the lower limbs, nervousness and insomnia. On July 31, the urine was red in color, had a specific gravity of 1,034, contained five grams of albumin to each 200 cubic centimeters, and presented an abundant deposit formed of red and white corpuscles and epithelial casts. The persistence of these phenomena, and above all, of anuria; the menace of a uremic crisis at any moment that would carry off the patient, proclaimed a condition that was nothing if not grave. It was then that M. Lancereaux decided upon using the tincture of cantharides. On August 2, he prescribed a potion containing only one drop of the tincture, and the following day the quantity of urine increased to 600 grams. Each day thereafter two drops were given, the quantity of urine increasing to 1,400 grams and finally to 2,000 grams. The use of the drug was stopped after five days.

From the time the quantity of urine increased, the general state improved in a progressive manner, in so far as the anorexia and vomiting ceased, and calm and sleep were restored. At the end of twelve days the patient left her bed and eight days later she was no longer restricted to a special diet. The urine at the same time changed in color, the casts disappeared, the quantity of albumin decreased little by little until no trace could be found. On August 17, she was well enough to quit the hospital. She returned in November to verify her complete recovery. In sum, here was a case of a child afflicted with an epithelial nephritis, whose chances for recovery were slim, restored to health after taking less than ten drops of the tincture of cantharides. This suggestive fact proves not only the efficacy of the tincture of cantharides in the treatment of epithelial nephritis, but shows how small a thing will save a life, since there can be no doubt that this child was in a dangerous condition.

Is it not remarkable that a small dose of the tincture should so rapidly produce an effect that is the best one can expect? M. Lancereaux, who for the first time made use of the tincture of cantharides in an infectious nephritis, proceeded necessarily with the greatest circumspection. He expected, on account of the smallness of the dose, a slight increase in the urine, but the unexpected happened, for his hopes were far surpassed by the results. The case demonstrates the good results following the use of the tincture in the treatment of epithelial nephritis.

The same results were achieved in three young men who were affected with the disease known, clinically, as epithelial nephritis *a frigore*. The youngest, aged nineteen, presented, after a long trip on a bicycle, in consequence of which he was chilled, pains in the kidneys, lumbago, headache, anorexia, vomiting, and a slight febrile disturbance with dyspnea. Shortly after there were anasarca and ascites. The urine filled with a sediment, was of a dark color, specific gravity 1024, amount 400 cubic centimeters in twenty-four hours. It contained 16 grams of albumin, the urea and the chlorides being decreased. The microscope revealed in the sediment numerous granular and hyaline casts and desquamated epithelial cells. The treatment during two months had been a milk diet devoid of chlorides, opotherapeutic medication (hog's kidney), but the

results had been *nil*. When he consulted M. Lancereaux he was decidedly pale, profoundly anemic, and his condition was one of gravity. At first he was put on a strictly lacteal diet. A potion with 5 drops of the tincture of cantharides was administered, and the next day the quantity of urine increased from 400 to 750 grams. The dose of the medicine was then increased to 7, 10 and 12 drops in the twenty-four hours; the quantity of urine steadily increasing and at last attaining 3,000 cubic centimeters. During this time the ascites and edema diminished, the albumin decreased to 4 grams, the specific gravity descended to 1018, and the general condition improved. The two other patients, aged respectively twenty and twenty-one years, who had contracted their nephritis after a prolonged bath in the river, were helped by the tincture, for their anuria disappeared rapidly and their general condition was improved after doses of from 6 to 12 drops in twenty-four hours. And here it would be well to remark that one ought to use only a fresh preparation of the tincture since an old preparation has not the same active qualities.

Thus the facts published by M. Lancereaux,—facts which coincide with those published some time ago,—place in evidence the remarkable efficacy of cantharides in the treatment of diseases of the kidneys when the lesions are in the tubular epithelia. The physician when treating a nephritis should not limit himself to the finding of albumin but should take into consideration the specific gravity, the coloration, the quantity, the presence or absence of hyaline casts, and of epithelial cells. The therapeutic efficacy of a substance, which in large doses provokes the malady that it combats in small doses, is, in short, a characteristic of all drugs. This is not more paradoxical than the curative action, in small doses, of certain alkaloids which, when the dose is increased, become toxic.

July 19.

OBITER DICTA FROM FOREIGN JOURNALS.

GAMBETTA'S EYE.

THE *Mémorial de la Librairie*, in a recent issue, prints the following letter from the private correspondence of Gambetta, in which the great statesman relates in detail, for the enlightenment of his father, how expensive a matter it is to engage the services of a well-known oculist when the removal of an eye is imperative. "Both my eyes," writes Gambetta, "were affected, but the right one was so much the worse that there was danger of its affecting the other. Dr. Fienzal advised me to consult Dr. de Wecker, who insisted that an operation was necessary. Needless to say the diseased eye was removed some days ago, and I am now in possession of an artificial eye which I have already tried and which, so the promise runs, will deceive even the closest scrutinizers. But though the operation was successful, I will be compelled to be absolutely quiet a whole month. Do you realize what this means to me? Under ordinary circumstances the inconveniences might be overcome, but with the price of commodities soaring skywards on account of the Exposition, and absolutely no source of income during my enforced retirement, I cannot but realize that I am facing financial disaster. Again, on account of its being necessary to make a model for the artificial eye, the bill for the eye alone will amount to 900 francs. Were this all, I might be somewhat reconciled to my expenses, but there is another item to consider, and not an inconsiderable one,—namely, a gift for Dr. de Wecker, who has refused to accept money." Considering that the artificial eye was worth 900 francs, a tidy sum even in these plutocratic days when money is thrown with a lavish hand on things that are less needful than an eye, it ought not to surprise us at all to learn that the diseased eye became an object of veneration and was coveted by a number of connoisseurs. That it was finally acquired by an irrepressible American millionaire and carried triumphantly to America, should be a source of gratification to all those good folk among us, who are avid of seeing in their own country many, if not all, of the curiosities with which Europe is so plentifully strewn. The dramatic words of the *Echo de Paris* best express the final destination of the great Tribune's eye: "A pupil of the oculist de Wecker, who was assistant at the time of the operation, was presented with the eye by Gambetta himself, who was then a lawyer of some repute with small regard for its future value on account its once having belonged to him. The canny student must have been blessed with considerable prescience for he bottled it carefully and guarded it with rare solicitude. Years passed and the obscure lawyer became the illustrious statesman, the student in the meantime garnering laurels as an oculist. As the latter's fame increased he added thereto, considerably, by showing the impressionable of his wealthy clientèle, his unique possession; and ere long his patience and care were amply rewarded, for an American millionaire, with an insatiable thirst for curiosities, materialized and bought the relic. To-day Gambetta's eye, in its original bottle, is safely stored away in America."

A RECENT CHAPTER IN ARCHÆOLOGY.

THAT vases may be the means of ascertaining historical data in regard to diseases, was illustrated at a recent meeting of the French Academy of Medicine, when M. Capitan presented four Peruvian vases belonging to his collection, which are undoubtedly of a period anterior to the 11th century, and therefore date back to a time preceding the Incas dynasty of reigning lords from the 13th to the 16th century. The vases were found in sepultures by Dr. Berthon, and if the figures on them are as illuminating as M. Capitan makes them out to be, they are not without interest as a lesson to those modern medical men, who are prone to overlook the fact that the recognition of diseases was possible even at an early period in history. Savants who have examined these vases are of divers opinions, some contending that the figures undoubtedly show syphilitic and tuberculous lesions, others that the marks of leprosy are evidenced, while others still are convinced that the partial amputations depicted are nothing less than a surgical interference to prevent the further propagation of diseases, and a gentle method of chiding delinquents for being a menace to their fellowmen! According to M. Capitan, the loss of both eyes in one of the heads is indicative of an infectuous panophthalmitis, a diagnosis that would seem to carry with it a deeper knowledge of the signs of disease, as deciphered by archæologists from figures on ancient pottery, than is apparent in their usual expositions which every now and then flash across our darkened horizons.

BOOK REVIEWS.

TUBERCULOSIS: A PREVENTABLE AND CURABLE DISEASE. By Adolphus S. Knopf, M. D. New York: Moffat, Yard & Co., 1909.

This small volume is presented to the medical and lay public with a view of placing before each the most important points in the prevention and cure of tuberculosis. It is intended to show that tuberculosis is a preventable and curable disease, rarely hereditary, and that in children of tuberculous parents the pre-disposition can be overcome through proper hygienic and dietetic precautions. The book is serviceable, therefore, to the physician, to the patient actually affected, and to that portion of the public who are interested in the fight against the white plague.

The chapters are devoted to those points that tuberculous patients should know of their disease, to the duties of the people in general, the duties of the physician, the family of the patient, the community in which he lives, etc., to the sanatorium treatment, to the duties of modern municipal health authorities, etc., etc.

The book is adequately illustrated, well indexed, and is in large type.

Dr. Knopf has succeeded admirably in presenting a volume containing what the patient should know and eliminating that which he should not know of his disease.

DIE STAUUNGS HYPERAEMIE NACH BIER IN DER OHRENHEILKUNDE, von Prof. Dr. Eschweiler in Bonn. Verlag von F. C. W. Vogel in Leipzig.

This little monograph of seventy-five pages is a review of the literature and a detail of the author's experience in the treatment of diseases of the ear by Bier's method. The book impresses one as being the work not of a hyper-enthusiast but of a careful thinker and close observer. As such it commands our respect and attention. To quote from the author, page three, "In the light of practical experience, all remonstrances based on theoretical grounds, the reagent glass or animal experiments, must keep silent. The healing effect of hyperæmia can not longer be questioned and will scarcely any longer be questioned. The opinions will vary rather in this—some will limit hyperæmia to a small circle of inflammatory diseases, while others will be in favor of stasis-therapy in a large extent of cases. The truth lies in the middle."

The author then gives not only his own but the experiences of others in the treatment of the various inflammatory diseases of the ear—external otitis, catarrhal otitis, otitis media, acute and chronic, and mastoiditis by the Bier method. The details of the treatment are accurately described in a most careful and lucid manner. The book should be of especial value to the specialist and of interest to the practitioner.

INTERNATIONAL MEDICAL ANNUAL. 1909. A Year-book of Treatment. Practitioner's Index. 8vo. 683 pages. Price \$3.50. E. B. Treat & Co., 24 West 23rd Street, Chicago.

This annual is a review of medical literature of the year, arranged in a very easy reference form and illustrated by plain, colored and stereoptic plates. It consists of three parts: Part I, A Dictionary of Materia Medica and Therapeutics; Part II, A Dictionary of Medicine and Surgery; Part III, Miscellaneous Subjects, as Sanitation, etc. It has been prepared by a staff of thirty-five editors, each one of whom is an authority in the division of medicine reviewed by him. The subject matter considered is only the most important communications deserving attention through their intrinsic value. The reviews are compact and exact, yet full enough to be of use without referring to the original article, which, however, is credited and given as reference. This annual has the great advantage over the ordinary year-book in that it covers the most valuable productions of the year without being too extensive for practical use. It is the most complete one-book review of the entire field of the medical literature of the past year, available.

ELEMENTARY PRACTICAL TREATISE ON DISEASES OF THE PHARYNX AND LARYNX.

By Dr. E. J. Moure, Surgeon in charge of the Nose, Ear and Throat Department of the Faculty of Medicine, Bordeaux. Translated and adapted by J. Malcolm Farquharson, M. B., F. R. C. P., Edinburgh. Lecturer on Diseases of the Nose, Ear and Throat in the School of Medicine of the Royal Colleges, Edinburgh, etc. New York: Rebman Company. Price \$4.00.

The name and reputation of the author are quite sufficient guarantee as to the character of the book. We are indeed fortunate in having so excellent a book translated into English. To us the most striking feature of the book, as stated by the author in his preface, is its completeness. This should be of especial value to the practitioner, who may at times be confronted with some of the rarer conditions of the pharynx and larynx.

The style is simple, clear and forceful; the sentences short and terse, leaving no doubt as to the meaning to be conveyed. For this the translator also deserves credit.

We would call especial attention to the chapter on tonsillar and peritonsillar abscess as being most excellent, although differing somewhat in the method of treatment from the usual presentation.

In the last part of the book dealing with the larynx, the differential diagnosis between laryngeal tuberculosis and syphilis is most clearly given, while the conclusion reached in treatment states the author's most logical position. "It would be better to modify the receptivity of the soil than to pay too much attention to the local lesion, and thus sacrifice the patient in order to kill the bacillus." Not worthy of less mention are the excellent chapters on the neuromuscular affections of the larynx.

Few, I think in this country, would be inclined to agree with Dr. Moure in his treatment of hypertrophied tonsils. American surgeons seem to be fairly well agreed upon the advisability of tonsil enucleation.

GENITO-URINARY DISEASES AND SYPHILIS. By Edgar G. Ballenger, M. D., Atlanta, Ga. With 86 illustrations. Cloth; pp. 276. E. W. Allen & Co., Atlanta, Ga. 1908. Price, \$3.50.

This little book, originally intended for medical students, will be welcomed by the active general practitioner. It covers the subject thoroughly without dwelling too much on theories; occupying a position, therefore, between the large text-books and the condemnable manuals and quiz-compounds, from which students and oftentimes physicians acquire their medical knowledge. The work done in the study of syphilis during the last few years is given the place it deserves, and also in other respects it can be said to be entirely up-to-date. The fact that the author gives his own views and methods of treatment increases the value of the book.

LEITFADEN DES RÖNTGEN-VERFAHRENS, unter Mitarbeit von Dr. A. Blencke, Madgeburg; Professor Dr. Hildebrand, Marburg; Geh. Medizinalrat Prof. Dr. A. Hoffa, Bertin; Professor Dr. A. Hoffman, Düsseldorf; Docent Dr. Guido Holzknecht, Wien; Herausgegeben von Ingenieur Friedrich Dessauer, Aschaffenburg und Dr. med. B. Wiesner, Aschaffenburg. Mit 113 Abbildungen und 3 Tafeln. Dritte umgearbeitete und vermehrte Auflage. Preis 10 Mk. Verlag: Otto Nemnich, Leipzig. 1908.

This work is a production of the combined efforts of an electrical engineer and a physician, both connected with the famous Röntgen Institute in Aschaffenburg, where regular six-week courses are given in the technical, diagnostic and therapeutic use of the Röntgen ray. The reader is given the benefit of the results of the daily work of the authors, for which reason the book is highly recommendable; it is, however, more highly to be recommended because of the masterly way in which such men as Hoffa, Holzknecht, etc., treat of the special subjects. Not only the beginner, but the accomplished roentgenologist, will find a treasure of information in the book.

DIE UNTERSUCHUNGSMETHODEN UND ERKRANKUNGEN DER MÄNNLICHEN UND WEIBLICHEN HARNORGANE. In 17 Vorlesungen. Von Professor L. Burkhardt und Privat-Dozent O. Polano, Universitaet in Wuerzburg. Verlag von J. F. Bergmann in Wiesbaden. 1908.

Urology is one of the youngest specialties of medicine. Much has been added of late to our knowledge of the diseases of the urinary tract, and this probably is due more to the general use of the cystoscope than to any other single factor. Any book presenting clearly the theoretical and practical side of cystoscopy and

the most advanced teachings concerning the diagnosis and therapy of diseases of the bladder will be heartily welcomed not only by the specialist but also by the physician doing general work. This splendid volume also contains chapters, in form of clinical lectures, on the relation of urology to general diseases, to obstetrics and gynecology, on urologic diseases and their treatment in children. Numerous cystoscopic pictures of the more common conditions are presented in most beautiful illustrations in natural colors.

SURGERY: ITS PRINCIPLES AND PRACTICE. In five volumes. By 66 eminent surgeons. Edited by W. W. Keen, M. D., LL.D., Hon. F. R. C. S., Eng. and Edin., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Phila. Volume IV. Octavo of 1194 pages, with 560 text-illustrations and 22 colored plates. Philadelphia and London: W. B. Saunders Company. 1908. Per volume: Cloth, \$7.00 net; half morocco, \$8.00 net.

This fourth volume is in every way up to the excellence of the previous ones. The men selected to deal with the various subjects are familiarly associated with the branches assigned. It is only necessary to mention that Coley deals with hernia, Cabot with stone in the bladder, Young with the prostate, Murphy with the appendix, to instantly appreciate that these men have given us the best thought on these subjects. Some other chapters are on the rectum and anus by Abbe, kidney, ureter and suprarenal by Ransohoff, bladder by Lewis, scrotum and testicle by Bevan, intestine by Van Hook, ear by Dench, eye by De Schweinitz. The chapters on military and naval surgery are handled by the Surgeons General to the U. S. Departments. Tropical surgery is discussed by Walter McCaw, and there is an interesting chapter on the "Influence of Race, Sex and Age in Surgical Affections" by Rodman. This system of surgery, which still wants one volume to be complete, is one of the best ever published, and in its contributions is recorded the work of the foremost surgeons of the world, making it a universal Surgery in English, though we are gratified to find so much of the best is American.

RIVERSIDE EDUCATION MONOGRAPHS. Edited by Henry Suzzallo, Professor of the Philosophy of Education, Teachers' College, Columbia University. Published by Houghton Mifflin Company, Boston. Price 35 cents each, net, postpaid.

Of this series of monographs, two have been published, viz.: Education, by Emerson, and The Meaning of Infancy, by John Fiske. Ten other volumes are in preparation. The entire series will include six monographs on general educational theory, two volumes on administration and supervision of schools and four volumes on methods of teaching.

The readers of the INTERSTATE are familiar with Emerson's essay on Education, and special mention of it is unnecessary. The other volume before us is not so well known. It consists of an essay, "The Meaning of Infancy," in which is presented a brief and simplified restatement of those theories of man's origin and destiny; this is followed by an address, delivered by Fiske in 1895, on "The Part Played by Infancy in the Evolution of Man." Together the two papers present an interesting biological interpretation of childhood and education which will prove of value to physicians of broad professional interests.

DIE ANWENDUNG DER ELEKTIZITÄT IN DER DERMATOLOGIE. Ein Leitfaden für praktische Aerzte und Studierende, von Prof. Dr. S. Ehrmann, in Wien. Met 98 Figuren im Texte. Preis: Mark 6. Wien und Leipzig, Verlag von Josef Safai. 1908.

The various forms of electricity are used to a greater extent in dermatology than in any other specialty. Electrolysis, faradization, galvanization, x-ray treatment, the high frequency current, static electricity and the different forms of electric light, all have their value in the treatment of various diseases of the skin, but these methods are only touched upon in medical schools, as too much time is required for didactic lectures on special pathology. Dr. Ehrmann's book, therefore, will be welcomed by the general practitioner, who is often called upon to treat diseases of the skin.